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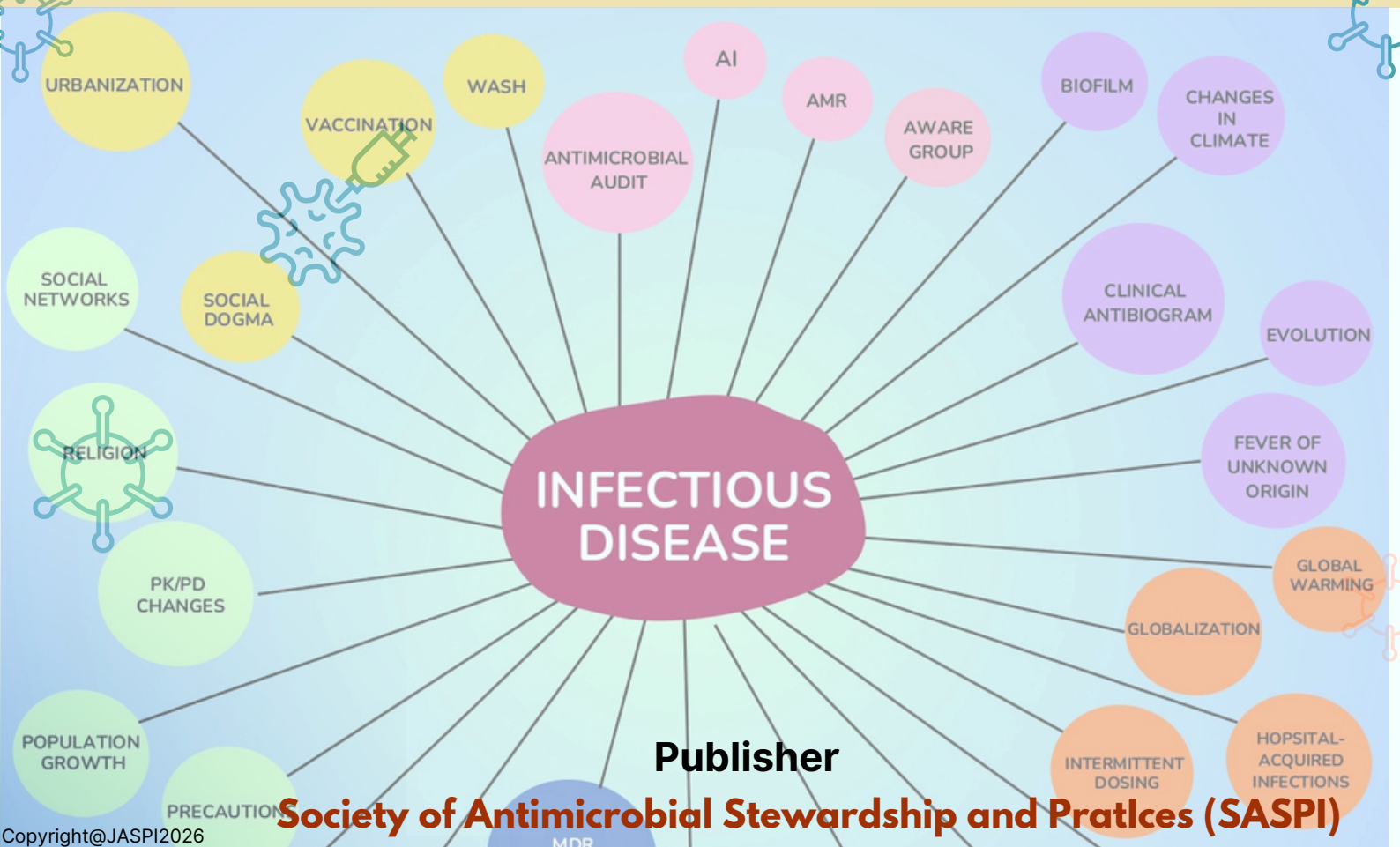
ABSTRACT BOOK



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Abstract 001 ASPICON 2026 | October 08 -11 | 2026

Tracing the Epidemiological Evidence of Fatal Necrotizing Skin infection by *Saksenaea vasiformis* through Molecular analysis

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BACKGROUND

Antimicrobial Resistance (AMR) is one of the biggest health threats of the 21st century. The problem of resistance is higher in low- and middle-income countries (LMIC) like India, driven by irrational over-the-counter antibiotic use and poor patient adherence, especially in rural areas. Developing a public health pharmacy (PHP) model may lead to more responsible antibiotic uses at the community level. This study aims to conduct a baseline assessment of dispensing practices in community pharmacies in Bhopal, using standardised patient (SP) methodology, to inform targeted antimicrobial stewardship interventions.

MATERIAL & METHOD

This cross-sectional study used the SP methodology for a need analysis of a PHP model to improve antibiotic dispensing practices within ambulatory care environments. Trained SPs exhibited predetermined clinical scenarios that simulated infectious conditions. The primary outcome was the proportion of SP-pharmacist encounters resulting in antibiotic dispensing without a prescription. Secondary outcomes included antibiotics dispensed for viral conditions, refilling of old prescriptions, prolonged antibiotic use and patient counselling practices.

RESULT

A total of 124 SP-pharmacist encounters were included in the study. Antibiotics were dispensed without prescription in 96/124 (77.4%) of SP-pharmacist interactions. Dispensing antibiotics without a prescription was significantly associated with inappropriate dispensing practices, which include dispensing antibiotics for viral infections (80.2%, $p < 0.001$), refilling old prescriptions (77.9%, $p < 0.001$) and dispensing antibiotics for durations exceeding 10 days (56.5%, $p = 0.005$). No significant association was observed between dispensing without prescription and provision of antibiotic counselling ($p=0.498$).

CONCLUSION

The findings reveal substantial gaps in antibiotic dispensing practices in retail pharmacies, highlighting irrational dispensing practices and poor adherence to antimicrobial stewardship principles as major drivers of AMR. These results provide critical baseline data to support the design and implementation of targeted antimicrobial stewardship strategies within community pharmacy settings, particularly under public health pharmacy (PHP) models.

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Abstract 002 ASPICON 2026 | October 08 - 11 | 2026

Disseminated Histoplasmosis: Diagnostic and Therapeutic Challenges, A Case Series

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BACKGROUND

Disseminated histoplasmosis is a potentially life-threatening systemic fungal infection caused by Histoplasma capsulatum. Its nonspecific manifestations often mimic tuberculosis, sepsis, and hematological malignancies resulting in diagnostic delay. I present three cases illustrating the diagnostic complexity and therapeutic considerations associated with disseminated histoplasmosis.

CASE SUMMARY

A 33-year-old immunocompetent woman from Delhi, presented with two months of fever, weight loss, weakness, splenomegaly, and pancytopenia. High-resolution computed tomography (HRCT) of the thorax showed diffuse ground-glass opacities, calcified nodules, pleural effusion, and mediastinal lymphadenopathy. Bone marrow examination demonstrated intracellular yeast forms consistent with H. capsulatum along with hemophagocytes suggestive of secondary hemophagocytic lymphohistiocytosis. Her residence in Delhi, a major airport with substantial international connectivity, may represent a potential setting for environmental exposure to Histoplasma capsulatum, even in the absence of significant travel.

A 45-year-old diabetic male gardener (HbA1c of 6.7) with NPDR (Non proliferative diabetic retinopathy) presented with prolonged fever, weight loss, hepatosplenomegaly, pancytopenia, and respiratory failure. Concurrent growth of Candida albicans in blood culture complicated the decision-making. H. capsulatum were later identified on peripheral smear, confirmed on bone marrow examination and treated accordingly.

A 62-year-old woman with uncontrolled diabetes, presented with prolonged fever, weight loss, pancytopenia, and multisystem involvement, complicated by Citrobacter freundii pneumonia, hypercalcemia, pancreatitis, and acute kidney injury. Bone marrow examination revealed yeast foms consistent with H. capsulatum.

KEY FINDINGS

All three patients presented with prolonged fever, constitutional symptoms, cytopenias, and reticuloendothelial involvement. Co-existing bacterial infection, candidemia, hematological abnormalities, pancreatitis and secondary HLH further complicated the diagnosis. Bone marrow examination was confirmatory.

All patients received liposomal amphotericin B (Induction therapy) with substantial clinical improvement by the 2nd week followed by oral itraconazole for one year.

CONCLUSION

This case series underscores the heterogeneous presentations of disseminated histoplasmosis in both immunocompromised and an apparently immunocompetent host. Early clinical suspicion, assessment for concomitant infections, prompt initiation of antifungals, and monitoring for amphotericin-related renal and electrolyte impairment are critical to optimizing outcomes.

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Abstract 003 ASPICON 2026 | October 08 - 11 | 2026

Screening Yield and Clinical Characteristics of Cy-Tb Positivity among Individuals Undergoing Targeted Screening for Tuberculosis Infection: A Retrospective Observational Study

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BACKGROUND

Global strategies for tuberculosis (TB) elimination are pivoting toward identifying and treating latent TB infection in high-risk groups. Cy-Tb is a novel skin test combining the specificity of Interferon-Gamma Release Assays (IGRA) with the operational simplicity of the Mantoux test. This study evaluates the screening yield and clinical utility of Cy-Tb, within a targeted screening environment for individuals with significant comorbidities.

MATERIALS & METHODOLOGY

We conducted a retrospective observational study of 422 individuals categorized as high-risk due to metabolic (diabetes mellitus, chronic kidney disease [CKD], COPD, asthma), nutritional (malnutrition), or TB exposure-related risk factors. sputum microbiological evaluations (AFB smear, RTPCR/GeneXpert) was done for individuals positive to cy-tb at 72 hrs. Cy-Tb-positive and Cy-Tb-negative groups were compared using appropriate statistical tests, and odds ratios calculated

RESULTS

The primary screening yield was 5.92% (25/422). The Cy-Tb positive group had a mean age of 47.00 years. No statistically significant differences were observed between Cy-Tb-positive and Cy-Tb-negative individuals regarding mean age (47.00 ± 15.70 vs. 50.13 ± 16.15 years, p=0.358). Among Cy-Tb-positive individuals, 60.0% were male compared with 55.3% among Cy-Tb-negative individuals; this difference was not statistically significant (p=0.791). TB contact history was present in 16.0% of Cy-Tb-positive and 8.3%of Cy-Tb-negative individuals (p=0.260). Other clinical risk factors, including Diabetes mellitus (48% vs 47.2%, p=1.000), malnutrition (12.0% vs. 14.4%, p=1.000), COPD (4.0% vs. 10.6%, p=0.495), CKD (0% vs. 5.0%, p=0.621), and alcohol use (0% vs. 0.8%, p=1.000), were not statistically significant. Inflammatory markers showed no significant differences between groups: mean ESR was 41.27 ± 30.52 vs. 52.14 ± 35.49 mm/hour (p=0.366), while mean CRP was 7.41 ± 8.90 vs. 2.64 ± 4.02 mg/L (p=0.310) among Cy-Tb-positive and Cy-Tb-negative individuals, respectively. Among the Cy-Tb-positive cohort, 8.0% (2/25) had microbiologically confirmed active pulmonary TB including 1 case of Rifampicin resistance, while 1 Cy-Tb-negative individual also exhibited active TB. Identified active TB cases required immediate intervention, while the remaining were started on tuberculosis preventive therapy (TPT).

CONCLUSION

Cy-Tb demonstrated a targeted screening yield of 5.92% and is a viable screening tool. However, the occurence of bacteriologically confirmed TB in a Cy-Tb negative patient highlights a critical clinical caveat. A "dual-track" diagnostic approach, combining Cy-Tb with systematic microbiological workup (AFB/RTPCR) is mandatory to avoid missing active disease in high-risk populations with high clinical suspicion.

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Abstract 004 ASPICON 2026 | October 08 - 11 | 2026

Screening of Gastrointestinal Carriage of Carbapenemase-Producing Carbapenem-Resistant Enterobacterales (CRE) Among ICU Patients and Associated Risk Factors at a Tertiary Care Centre in Southern Haryana

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BACKGROUND

Carbapenem-resistant Enterobacterales (CRE), particularly carbapenemase- producing CRE (CP-CRE), are important multidrug-resistant pathogens associated with limited therapeutic options, increased morbidity, mortality, prolonged hospitalization, and healthcare-associated transmission. Gastrointestinal colonization is often asymptomatic but serves as a reservoir for subsequent infection and transmission, especially among critically ill patients. ICUs are particularly vulnerable due to prolonged hospitalization, broad-spectrum antibiotic exposure, invasive procedures, and increased transmission risk. Data on CP-CRE gastrointestinal carriage in Southern Haryana remain limited.

MATERIAL & METHODOLOGY

A prospective, cross-sectional analytical study was conducted among patients aged ≥2 years admitted to Adult and Paediatric ICUs of a tertiary care hospital in Southern Haryana. A total of 160 eligible patients were enrolled by consecutive sampling. Stool or rectal/perirectal swabs were collected within 72 hours of ICU admission and on day five. Screening was performed using direct MacConkey agar with ertapenem (10 µg) discs and HiCrome™ KPC agar. Suspected Enterobacterales were identified by standard microbiological methods, and antimicrobial susceptibility testing was performed according to CLSI 2024 guidelines. Carbapenemase production was confirmed using mCIM and eCIM.

RESULTS

Among 160 patients screened, 16 (10%) demonstrated gastrointestinal carriage of CP- CRE, with 3% from the Paediatric ICU and 7% from the Adult ICU. Carriage was more frequently associated with previous broad-spectrum antibiotic exposure, prolonged ICU or hospital stay, previous hospitalization, and invasive devices, including urinary catheters, central venous catheters, and mechanical ventilation. Most CRE isolates exhibited multidrug- resistant susceptibility patterns. mCIM/eCIM confirmed carbapenemase production and enabled assessment of metallo-β-lactamase production.

CONCLUSION

A 10% gastrointestinal carriage rate of CP-CRE indicates a substantial reservoir for healthcare-associated transmission. Routine surveillance, early identification of carriers, stringent infection prevention and control measures, antimicrobial stewardship, and monitoring of high-risk patients are essential to limit CRE dissemination in ICU settings.

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Abstract 005 ASPICON 2026 | October 08 - 11 | 2026

Pseudomonas aeruginosa: A silver lining in antimicrobial resistance? Insights from a Delhi tertiary care hospital

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BACKGROUND

Pseudomonas aeruginosa is a leading cause of healthcare-associated infections, and rising multidrug resistance (MDR) is associated with an increase in morbidity and mortality. This study characterizes resistance patterns among P. aeruginosa isolates at a tertiary care hospital in India.

MATERIAL & METHODOLOGY

In this retrospective cross-sectional study, we analyzed 1,992 P. aeruginosa isolates recovered from pus, wound and burn swabs, respiratory specimens, and body fluids between January 2022 and June 2026. Antimicrobial susceptibility testing was performed by the Kirby-Bauer disc diffusion method, and results were interpreted according to the latest CLSI guidelines

RESULTS

Of 1992 isolates, 4.8% (95) were from ICU patients and 95.2% (1897) from non-ICU patients. The majority of isolates were from patients aged 19-59 years (67.4%) with a male predominance (59.2%). Most isolates were from pus (81.4%), followed by respiratory specimens (8.0%), swabs (4.8%), tissue (2.9%), and body fluids (2.1%). A significant decline in resistance was observed for several agents over the study period, most notably aztreonam (25.2% to 3.9%), imipenem (32% to 11.1%), meropenem (23% to 15.8%), ceftazidime (27.9% to 14.3%), Tobramycin (29.1% to 16.8%), Piperacillin tazobactam (22.3% to 20%) and ciprofloxacin (37.3% to 28.6%). Correspondingly, the proportion of MDR isolates declined from 49.8% in 2022 to 17% in 2026, and extensively drug-resistant (XDR) isolates fell from 27.1% to 3.8% over the same period.

CONCLUSIONS

This study documented a consistent and substantial decline in resistance across nearly every major antipseudomonal agent tested—including critical last-line and first-line options such as carbapenems (imipenem, meropenem), aztreonam, ceftazidime, tobramycin, piperacillin-tazobactam, and ciprofloxacin. Correspondingly, MDR and XDR P. aeruginosa strains were observed over the 2022-2026 period, offering a rare positive counter-trend amid the broader antimicrobial resistance crisis. The findings of this study underscore the necessity of stringent antibiotic policies, active antimicrobial surveillance, and infection control measures to decrease the further spread of resistant P. aeruginosa and to guide empirical treatment choices.

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Abstract 006 ASPICON 2026 | October 08 - 11 | 2026

From GAS to MDR: The Microbiological Evolution of Necrotizing Fasciitis

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BACKGROUND

Necrotizing fasciitis is a rapidly progressive, life-threatening soft-tissue infection requiring early recognition, urgent surgical source control and appropriate antimicrobial therapy. Streptococcus pyogenes is a well-recognized cause; however, prolonged hospitalization and repeated surgical interventions may predispose to subsequent infection with multidrug-resistant healthcare-associated organisms.

CASE SUMMARY

A 24-year-old previously healthy man presented with rapidly progressive right lower-limb pain and swelling, following trivial foot trauma one week prior to presentation. It was associated with blistering, discolouration and fever. Examination revealed extensive oedema, bullous formation, necrosis and absent peripheral pulses. Necrotizing fasciitis was diagnosed, and evaluation revealed diabetic ketoacidosis with sepsis. Following stabilization and under appropriate broad- spectrum carbapenem antibiotics, fasciotomy and extensive debridement were performed. Initial pus culture yielded Group A Streptococcus (GAS). Despite treatment and repeated debridement, infection progressed, requiring through-knee followed by transfemoral amputation. Subsequent cultures demonstrated carbapenem-resistant *Acinetobacter baumannii complex* (CRAB), *Escherichia coli, Pseudomonas aeruginosa and* carbapenem-resistant *Klebsiella pneumoniae* (CRKP). Despite the severity of the infection and persistence of CRAB in subsequent tissue cultures, timely multidisciplinary intervention, repeated surgical source control, and escalation of antimicrobial therapy as per culture reports, were instrumental in controlling the systemic infection and ultimately saving the patient's life.

KEY FINDINGS

- Rapidly progressive necrotizing fasciitis following trivial trauma.
- Newly diagnosed diabetes with diabetic ketoacidosis at presentation.
- Extensive tissue and muscle necrosis requiring serial amputations.
- Sequential isolation of GAS, CRAB, Escherichia coli, Pseudomonas aeruginosa and CRKP.
- Persistent CRAB despite repeated surgical interventions.

CONCLUSION

This case highlights how timely surgical source control and serial microbiological evaluation can be lifesaving in a young patient with newly diagnosed diabetes presenting with necrotizing fasciitis. The evolving microbiological profile, including multidrug-resistant Gram-negative organisms, underscores the importance of deep-tissue sampling, susceptibility testing, and antibiotic stewardship in guiding effective antimicrobial therapy.

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Abstract 007 ASPICON 2025 | October 08 - 11 | 2026

Streptococcal Toxic Shock Syndrome Following Minor Trauma: A Case Report

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BACKGROUND

Streptococcal toxic shock syndrome (STSS) is a rare, life-threatening manifestation of invasive Group A Streptococcal infection characterized by septic shock, multiorgan dysfunction, and high mortality. Early recognition and prompt multidisciplinary management are essential for a favorable outcome.

CASE SUMMARY

A 45-year-old previously healthy man presented with severe pain and swelling of the right upper limb and anterior chest wall following heavy weight lifting. He was in septic shock and required noradrenaline despite fluid resuscitation. Examination revealed erythema, bullae, skin peeling, and marked tenderness. Blood and pus cultures grew Streptococcus pyogenes. He was treated with high-dose beta-lactam antibiotics and clindamycin and underwent two fasciotomies with serial debridement. He subsequently recovered from septic shock, was weaned off vasopressors, and was discharged after a prolonged but uneventful recovery.

KEY FINDINGS

The combination of severe pain and rapidly progressive soft-tissue changes following apparently minor trauma, together with septic shock and microbiological isolation of S. pyogenes, supported the diagnosis of STSS associated with an invasive soft-tissue infection. Early toxin-suppressing antimicrobial therapy, aggressive hemodynamic support, and prompt surgical source control were central to recovery.

CONCLUSION

STSS should be considered in patients with rapidly progressive soft-tissue symptoms, disproportionate pain, and shock even after seemingly minor trauma. Timely recognition, appropriate antimicrobial therapy, intensive supportive care, and early surgical intervention can be lifesaving.

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Abstract 008 ASPICON 2026 | October 08 - 11 | 2026

Evaluating Knowledge, Attitude, and Implementation Practices Regarding Antimicrobial Stewardship Programmes Among Healthcare Professionals: A Cross-Sectional Study

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BACKGROUND

Antimicrobial resistance (AMR) poses a global public health threat, demanding robust institutional strategies to safeguard existing therapeutics. Antimicrobial Stewardship Programmes (AMSP) optimize antibiotic utilization, reduces adverse effects, and suppress the emergence of resistant strains. This study aims to evaluate the baseline knowledge, attitudinal frameworks, and real-world implementation practices concerning AMSP among healthcare professionals across diverse clinical settings.

MATERIAL & METHODOLOGY

A cross-sectional descriptive survey was done using electronic questionnaire among healthcare professionals, across private and public healthcare systems. The data extracted captured hospital demographics, individual designations, thematic understandings of AMSP, explicit adherence parameters to standard practice protocols, recognized improvements, and major barriers for execution of AMSP.

RESULTS

Participant Characteristics & Infrastructure: Total number of participants were 51. The participants are primarily medical microbiologists, clinical physicians, and infection control staff working predominantly in large-scale government teaching institutes and private hospitals >1000 (47%) and 301–500 (17%) bed capacities. Vast majority (82%) reported established AMSP. Operational durations varied heavily (30% for >5yrs and 30% for 1-3yrs. Among the participants 55% were non-SASPI members. 82.5% of the participants were aware about the 42 practices of AMSP, while only 11.8% implemented it completely.

- **Knowledge & Attitudes:** Respondents exhibited strong foundational knowledge, uniformly identifying correct indication, dosage, route, and microbiologically-guided therapy as essential components of rational prescribing. Attitudes were overwhelmingly positive; there was a universal consensus (& quot; Strongly Agree & quot; / & quot; Agree & quot) that structured AMSPs, continuous medical education, and accessible, locally updated antimicrobial resistance data are crucial to clinical outcomes.

- **Implementation Practices:** A significant discrepancy emerged between positive attitudes and institutional practice. Standardized tracking metrics such as Days of Therapy [DOT] or Defined Daily Doses [DDD] are under-utilized or entirely unmonitored in several facilities. Crucial operational tools—such as formal antibiotic pre-authorization, 48–72 hours clinical time-outs, and active intravenous-to-oral de-escalation tracking—face partial execution, especially within resource-constrained public sector environments.

- **Perceived Outcomes &Barriers:** Implemented programs yielded tangible improvements, specifically better empirical antibiotic prescribing patterns, enhanced guideline adherence, and reductions in broad-spectrum antibiotic overuse. Only in 39% of the cases antibiotic is used after approval. However, heavy daily clinical workloads, acute shortages of trained clinical pharmacy/dedicated stewardship personnel, poor information technology (IT) dashboard integration, and clinician inertia regarding prescriber autonomy

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were validated as prominent structural barriers. VAP followed by CLABSI were the most common hospital acquired infection to be surveyed.

CONCLUSION

Healthcare professionals display high theoretical knowledge and a universally favourable attitude toward AMSP execution. Out of the 42 practices of AMSP lack of administrative support followed by auditing of antibiotics were most challenging to be followed. The most common suggestion to improve AMSP which we received was to increase the number of dedicated staff. Overcoming these barriers requires systemic institutional mandates: integrating real-time automated electronic health records, establishing dedicated clinical pharmacist roles for proactive ward-level auditing, and implementing simplified, standardized tools for prescription feedback.

DISCLAIMER: These are self-reported estimates by the participants and not verified clinical audit data.

KEYWORDS: Antimicrobial Stewardship, Antibiotic Resistance, Diagnostic Stewardship, Healthcare-Associated Infections, Prescription Audit, De-escalation.

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Abstract 009 ASPICON 2026 | October 08 - 11 | 2026

Comparative In-vitro Evaluation of Ceftriaxone, Ceftriaxone- Sulbactam and Ceftriaxone- EDTA-Sulbactam Against Gram-Negative Bacterial Isolates from ICU Patients

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BACKGROUND

Antimicrobial resistance among Gram-negative pathogens severely limits treatment options in intensive care units (ICUs). Ceftriaxone resistance is frequently driven by β-lactamase production. Combining ceftriaxone with sulbactam and EDTA is a potential strategy to restore efficacy. This study compared the in-vitro antibacterial activity of ceftriaxone, ceftriaxone-sulbactam (CIS), and ceftriaxone-EDTA-sulbactam (CIS+EDTA) against Gram-negative isolates from ICU patients.

MATERIAL & METHODOLOGY

This comparative in-vitro study evaluated Gram-negative bacterial isolates recovered from clinical specimens (pus, blood, urine, body fluids) of ICU patients. Organisms were identified via standard microbiological techniques. Antibacterial activity was evaluated using the Kirby-Bauer disk diffusion method on Mueller-Hinton agar. Inhibition-zone diameters (mm) were measured and susceptibility categories recorded. Paired statistical tests were applied, with $p < 0.05$ considered statistically significant.

RESULTS

From 245 records, 245 complete isolates were analyzed: Escherichia coli (31.0%), Enterobacter spp. (22.9%), Pseudomonas spp. (17.6%), Acinetobacter spp. (11.4%), Klebsiella spp. (11.0%), and Citrobacter spp. (6.1%). Mean zone diameters were 6.61±2.17 mm for ceftriaxone, 6.80±2.38 mm for CIS, and 22.53±5.84 mm for CIS+EDTA. The zone difference between ceftriaxone and CIS was not significant ($p = 0.822$), whereas CIS+EDTA demonstrated significantly larger zones than both ($p< 0.001$). Increased zone diameters over ceftriaxone occurred in 12.7% of isolates with CI and 96.3% with CIS+EDTA. Overall, 94.7% of isolates were susceptible to CIS+EDTA.

CONCLUSION

Ceftriaxone-EDTA-sulbactam demonstrated significantly superior in-vitro antibacterial activity compared to ceftriaxone and ceftriaxone-sulbactam against ICU Gram- negative isolates. The substantial increase in zone diameter highlights that adding EDTA-sulbactam significantly enhances ceftriaxone activity, supporting further evaluation of this combination against resistant Gram-negative populations.

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Abstract 010 ASPICON 2026 | October 08 - 11 | 2026

Surgical Site Infections after ORIF in Closed Fractures: A Clinico-Microbiological Analysis

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BACKGROUND

Surgical site infection (SSI) is an important postoperative complication of orthopaedic surgery, contributing to prolonged hospitalization, delayed rehabilitation, increased healthcare costs, and revision procedures. Despite open reduction and internal fixation (ORIF) of closed fractures being considered relatively clean procedures, SSI may occur due to host related, operative, and microbial factors. This study evaluated the incidence, clinical characteristics, microbiological profile, and antimicrobial susceptibility patterns of SSI following ORIF of closed fractures.

MATERIAL & METHODOLOGY

A retrospective observational study was conducted at University College of Medical Sciences and Guru Teg Bahadur Hospital, Delhi, from January to December 2025. Patients undergoing ORIF for closed fractures were reviewed, and SSI was identified according to CDC/NHSN criteria. Demographic, clinical, comorbidity, fracture site, operative, and microbiological data were recorded. Wound specimens were processed using standard bacteriological methods. Antimicrobial susceptibility testing was performed by the Kirby Bauer disc diffusion method according to CLSI guidelines.

Patients were followed through hospital records and post discharge surveillance documentation

RESULTS

Among 1290 patients, the overall SSI rate was 1.62% (n=21). The mean age of SSI cases was 39.6 years, with a male predominance. The 20-40 year age group was most represented. Type 2 diabetes mellitus and immunocompromised status were each present in 19% of cases. Most surgeries were emergencies (95.2%), and the femur was the most frequently affected site (57.1%). Of 21 SSI specimens, 15 (71.4%) yielded bacterial isolates. Enterobacter species was predominant (46.6%), followed by Klebsiella pneumoniae (20%) and MRSA (20%). Among Enterobacteriaceae, resistance was highest to ciprofloxacin (100%), piperacillin–tazobactam (80%), and amikacin (77.8%). The mean time to SSI development was 18.2 days.

CONCLUSIONS

SSI following ORIF in closed fractures remains an important concern despite a relatively low incidence. The predominance of gram negative organisms with emerging antimicrobial resistance highlights the need for targeted perioperative antibiotic policies. Strengthening infection control practices, early identification of high risk patients, and continuous microbiological surveillance are critical to improving surgical outcomes and guiding rational antimicrobial use.

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Abstract 011 ASPICON 2026 | October 08 - 11 | 2026

Evaluation of Cefepime-Enmetazobactam Against β-Lactamase Producing Gram-Negative Bacterial Isolates

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BACKGROUND

The rise of antimicrobial resistance among β-lactamase-producing Gram-negative pathogens, particularly extended-spectrum β-lactamase (ESBL)-producing Enterobacterales, poses a critical clinical challenge. Cefepime-Enmetazobactam is a novel fourth-generation cephalosporin and β-lactamase inhibitor combination designed to overcome resistance mediated by ESBLs and class A β-lactamases. This study evaluated the invitro antibacterial activity of cefepime-Enmetazobactam in comparison to cefepime alone against clinical Gram-negative isolates demonstrating baseline cefepime resistance.

MATERIAL AND METHODOLOGY

A total of 251 clinical Gram-negative bacterial isolates exhibiting complete baseline resistance to cefepime alone (zone diameter = 6 mm) were included in this evaluation. In-vitro susceptibility testing for cefepime Enmetazobactam was performed using standardized disk diffusion methodology. The pathogen cohort comprised Acinetobacter spp. (n=54), Enterobacter spp. (n=53), Escherichia coli (n=49), Klebsiella spp. (n=48), Pseudomonas spp. (n=37), and Citrobacter spp. (n=9). Clinical specimen origins included endotracheal tube tips (31.2%), urine (22.4%), pus (17.6%), sputum (8.8%), and tissue/wound swabs (9.6%).

RESULT

Cefepime-Enmetazobactam demonstrated exceptional in-vitro potency, restoring susceptibility in 98.41% (n=247/251) of cefepime-resistant isolates. Complete 100% susceptibility was observed for Acinetobacter spp. (54/54), Klebsiella spp. (48/48), Pseudomonas spp. (37/37), and Citrobacter spp. (9/9). High susceptibility rates were also achieved in Escherichia coli (98.0%, 48/49) and Enterobacter spp. (94.3%, 50/53). Persistent resistance to the combination was limited to only 4 isolates (1.59%), consisting of 3 Enterobacter spp. and 1 Escherichia coli.

Cefepime-Enmetazobactam demonstrated exceptional in-vitro potency, restoring susceptibility in 98.41% (n=247/251) of cefepime-resistant isolates. Complete 100% susceptibility was observed for Acinetobacter spp. (54/54), Klebsiella spp. (48/48), Pseudomonas spp. (37/37), and Citrobacter spp. (9/9). High susceptibility rates were also achieved in Escherichia coli (98.0%, 48/49) and Enterobacter spp. (94.3%, 50/53). Persistent resistance to the combination was limited to only 4 isolates (1.59%), consisting of 3 Enterobacter spp. and 1 Escherichia coli.

CONCLUSIONS

Cefepime-Enmetazobactam exhibits potent in-vitro activity and effectively reverses cefepime resistance across major β-lactamase-producing Gram-negative bacterial isolates. These findings support its potential as a highly effective therapeutic option for managing multidrug-resistant Gram-negative infections.

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Abstract 012 ASPICON 2026 | October 08 - 11 | 2026

Evaluation of Activity of Plazomicin Against Carbapenem-Resistant Enterobacterales Isolated from ICU Patients in a Tertiary Care Hospital

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BACKGROUND

Carbapenem-Resistant Enterobacterales (CRE) present a major clinical challenge in intensive care units (ICUs), drastically limiting effective therapeutic options. Plazomicin is a novel, next generation aminoglycoside designed to overcome common aminoglycoside-modifying enzymes. This study evaluated the in-vitro antibacterial activity of plazomicin against CRE isolates from ICU patients and compared its performance with conventional aminoglycosides, amikacin and gentamicin.

Objectives

- To determine the susceptibility pattern of plazomicin among CRE isolates obtained from ICU patients.
- To compare the in-vitro activity of plazomicin with conventional aminoglycosides, particularly amikacin and gentamicin, against CRE isolates.

MATERIAL & METHODOLOGY

A total of 106 clinical isolates (including 69 Enterobacterales species such as Escherichia coli, Enterobacter spp., Klebsiella pneumoniae, and Citrobacter spp.) were collected from ICU patient specimens (endotracheal aspirates, urine, pus, and blood). EUCAST guidelines were used for Antimicrobial Analysis. Susceptibility to plazomicin (30 µg) was tested via by kirby bauer disc diffusion method and compared directly with amikacin and gentamicin.

RESULT

Among the tested Enterobacterales isolates (N = 69), plazomicin demonstrated high susceptibility of 78.3% (54/69). In contrast, conventional aminoglycosides displayed marked resistance: amikacin showed only 18.8% susceptibility (71.0% resistant), while gentamicin showed 31.9% susceptibility (62.3% resistant). Across all 106 multidrug-resistant ICU isolates, plazomicin maintained overall susceptibility in 68.9% (73/106) of cases, outperforming amikacin (15.1%) and gentamicin (26.4%).

CONCLUSIONS

Plazomicin demonstrates potent in-vitro activity against carbapenem-resistant Enterobacterales, showing significantly superior efficacy compared to traditional aminoglycosides like amikacin and gentamicin. It represents a valuable therapeutic alternative for managing severe ICU infections caused by multidrug-resistant CRE pathogens

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Abstract 013 ASPICON 2026 | October 08 - 11 | 2026

Impact of Educational Intervention on Knowledge, Attitude, Practice Regarding Antimicrobial Stewardship among Healthcare Professionals in a Tertiary Care Hospital: A Pre- and Post-Intervention Study

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BACKGROUND

Antimicrobial resistance (AMR) is a growing global threat, driven by irrational antimicrobial prescribing, inadequate awareness of their appropriate use, self-medication, and over-the-counter availability. Antimicrobial stewardship programs (ASPs) promote rational antibiotic use, but their effectiveness largely depends on the knowledge, attitudes, and practices (KAP) of frontline prescribers, especially resident doctors.

MATERIAL & METHODOLOGY

A prospective pre- and post-intervention study was conducted among healthcare professionals at a tertiary care hospital. A validated KAP questionnaire assessing knowledge, attitude, and practices regarding antimicrobial stewardship (AMS) was administered before and after a structured educational intervention focusing on rational antimicrobial use, appropriate selection, dose and duration, de-escalation, antimicrobial resistance, and culture- guided therapy. Pre- and post-intervention KAP scores will be assessed.

RESULT

A total of 42 healthcare professionals participated in the study. Following the educational intervention, the proportion of participants with adequate knowledge regarding antimicrobial stewardship increased from 58% to 88%. Participants demonstrating a positive attitude increased from 65% to 90%, while those reporting appropriate antimicrobial practices increased from 52% to 83%. Overall, the intervention showed a marked improvement in knowledge, attitude, and practices regarding antimicrobial stewardship.

CONCLUSIONS

The educational intervention resulted in a marked improvement in the knowledge, attitude, and practices of healthcare professionals regarding antimicrobial stewardship. These findings highlight the importance of regular educational and sensitization activities to promote rational antibiotic use and strengthen antimicrobial stewardship practices in healthcare settings.

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Disseminated Mucormycosis with Concomitant Aspergillus Co-infection in Diabetic Ketoacidosis: A Diagnostic and Antifungal Stewardship Challenge

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BACKGROUND

Disseminated mucormycosis is a rapidly progressive, angioinvasive fungal infection predominantly affecting immunocompromised hosts and patients with uncontrolled diabetic ketoacidosis (DKA). Rapid point-of-care microbiological diagnosis via direct microscopy is vital to guide early targeted therapy. Differentiating localised from true invasive co-infections—alongside financial constraints and physiological collapse—presents profound diagnostic, surgical, and antifungal stewardship challenges in resource-limited settings

CASE SUMMARY

A young male with uncontrolled Type 2 Diabetes presented with severe headache, fever, cough, left eye swelling, ptosis, exophthalmos, and multiple cranial nerve palsies (CN II–VII). Admission evaluation revealed severe DKA (ketones 4.8 mmol/L), leukocytosis (TLC 30.44 × 10^3/µL), severe anemia (Hb 5.7 g/dL), and acute kidney injury (creatinine 3.1 mg/dL). Direct KOH wet mounts of sputum and nasal swab specimens revealed broad, non-septate hyphae consistent with Mucormycetes, alongside occasional thin, septate hyphae suggestive of Aspergillus spp. Serum galactomannan was negative (index 0.14) providing no serological evidence of invasive aspergillosis, while the microbiological findings were considered consistent with localized Aspergillus infection.HRCT demonstrated bilateral pulmonary cavitary lesions and consolidations.

Antimicrobial management included immediate IV insulin, broad-spectrum antibacterial coverage, and conventional Amphotericin B Deoxycholate—chosen over liposomal formulations due to financial constraints despite baseline renal impairment. Surgical source control was precluded by extreme hemodynamic instability (SOFA score 8, SAPS3 score 82) requiring dual vasopressors. The patient developed multi-organ dysfunction syndrome and refractory shock, succumbing within 48 hours.

KEY FINDINGS

Direct KOH microscopy of non-invasive respiratory samples enabled rapid identification of fungal morphology. Financial barriers forced reliance on nephrotic conventional Amphotericin B, while severe physiological collapse pre-empted life-saving surgical debridement.

CONCLUSIONS

Diagnostic stewardship using rapid direct microscopy enables early presumptive identification of mold disease, but cannot distinguish colonization from invasive infection. Therefore integrating clinical, radiological, and mycological evidence is essential for appropriate antifungal and surgical management, particularly in resource-limited settings

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Abstract 015 ASPICON 2026 | October 08 - 11 | 2026

Prevalence and Pattern of Multi Drug Resistant Uropathogens Amongst Antenatal Females at Tertiary Care Hospital

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BACKGROUND

Urinary tract infections (UTIs) are a common complication during pregnancy, posing risks to both maternal and foetal health. The emergence of multidrug-resistant (MDR) uropathogens further limits therapeutic options, making surveillance crucial.

MATERIAL & METHODOLOGY

The present prospective, cross- sectional study was conducted on the urine samples received from the department of Obstetrics and Gynecology obtained from the Antenatal females suspected of urinary tract infection over a period of 6 months. The specimens were processed using standard microbiological techniques. Significant isolates as per Kass criteria (colony count 105CFU/ml) were identified by conventional biochemical methods, and antimicrobial susceptibility was determined by Kirby–Bauer disc diffusion following CLSI guidelines. Resistance mechanisms were screened for ESBL, AmpC, and MBL production using phenotypic confirmatory tests. Multidrug resistance was defined as resistance to three or more antimicrobial classes.

RESULT

Out of 256 specimens received, 26.56% (n=68)were culture positive with Escherichia coli being the predominant isolate 61.77%(n=42), followed by other Enterobacterales. Resistance profiling revealed Extended Spectrum Beta Lactamase production in 44.1%(n=30) of isolates, AmpC production was observed in 11.47%(n=7), and Metallo Beta Lactamase in 27.95%(n=19). Overall, 30.89%(n=21) of isolates exhibited Multi-Drug Resistance, with E. coli contributing to 42.85%(n=9) of MDR cases. Nitrofurantoin, Fosfomycin and Colistin were found to be the most reliable agents for the UTIs and in addition to these Linezolid, Vancomycin, Tetracyclines were also consistently sensitive for the Gram positives.

CONCLUSIONS

Antenatal UTIs present a significant burden of multidrug-resistant uropathogens, notably ESBL and MBL-producing E. coli. Fosfomycin and Nitrofurantoin represent safe, effective first-line options for lower UTIs in pregnancy. Routine susceptibility screening and antimicrobial stewardship are crucial to guide targeted empirical therapy and safeguard maternal-foetal outcomes.

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Abstract 016 ASPICON 2026 | October 08 - 11 | 2026

Antibiotic consumption trends among inpatients at a tertiary care hospital in North India

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BACKGROUND

Antibiotic surveillance data is crucial to map out strategies to promote their optimal use at hospital as well as community levels. We conducted a comprehensive analysis of longitudinal trends in antibiotic consumption over 7 years at a core "National Antimicrobial Consumption Network" site in North India.

MATERIAL & METHODOLOGY

In-patient antibiotic consumption data (2017-2023) was obtained from the hospital's central drug store and organised as: defined daily dose per 100 bed-days; antibiotic consumption as per the WHO access, watch and reserve classification; trends in overall and different antibiotic classes' consumption; paediatric formulations of antibiotics; and hospital's annual expenditure on antibiotics.

RESULT

An upward trend in overall antibiotic consumption and cost was observed over the study period. There was a rising trend in "reserve" group consumption; antibiotic combinations, classified under WHO "not recommended" category comprised a significant proportion of antibiotics consumed. Remarkably increased consumption of azithromycin and doxycycline was recorded during 2020 and 2021 coinciding with COVID-19 pandemic.

CONCLUSIONS

Few recommendations to optimise antibiotic use are promoting the use of narrow spectrum "access" group agents; linking antimicrobial resistance and consumption data to formulate effective therapeutic and prophylactic antibiotic use guidelines and adoption of restrictive antibiotic policy.

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Abstract 017 ASPICON 2026 | October 08 - 11 | 2026

To Study In Vitro Activities of Tedizolid and Linezolid against isolates of Gram-Positive Cocci Associated with Acute Bacterial Skin and Skin Structure Infections and Blood Stream Infections in Tertiary Care Centre at Northern India Region

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BACKGROUND

Tedizolid is a novel, expanded-spectrum oxazolidinone with potent activity against a wide range of Gram-positive pathogens.

MATERIAL & METHODOLOGY

A total of 125 isolates of Gram-positive bacteria were obtained consecutively from patients with acute bacterial skin and skin structure infections (ABSSSIs) or blood stream infections. These isolates included methicillin-susceptible Staphylococcus aureus (MSSA) (n = 20), methicillin-resistant Staphylococcus aureus (MRSA) (n = 65), Enterococcus faecalis (n = 25), Enterococcus faecium (n= 10)and Streptococcus species (n=5). The MICs of tedizolid and linezolid were determined.

RESULTS

Tedizolid exhibited better in vitro activities than linezolid against and there MICs were MSSA (0.5 versus 2 µg/ml), MRSA (0.5 versus 2 µg/ml), E. faecalis (0.5 versus 2 µg/ml), and VRE (MIC90s, 0.5 versus 2 µg/ml). The tedizolid MICs against E. faecalis and E.faecium intermediate to linezolid (MICs, 4 µg/ml) were 1 µg/ml and 0.5 µg/ml, respectively. Streptococcus sp (MIC90s, 0.5 versus 2 µg/ml), and the rates of susceptibility based on the CLSI interpretive breakpoints to the isolates were 30% to 70% of Streptococcus species.

CONCLUSIONS

Tedizolid exhibited 2- to 4-fold better in vitro activities than linezolid against a variety of Gram-positive cocci associated with ABSSSIs and blood stream infection. The lower susceptibilities of tedizolid against isolates of Streptococcus species were noted.

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Abstract 018 ASPICON 2026 | October 08 - 11 | 2026

Incidental Detection of Sarcoptes Scabiei During Routine KOH Examination: An Unusual Mycology Laboratory Finding

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BACKGROUND

KOH examination is routinely performed in mycology laboratories for the detection of fungal elements in skin, hair, and nail specimens. Although primarily intended for fungal diagnosis, careful microscopic examination may occasionally reveal non-fungal pathogens. Sarcoptes scabiei, the causative agent of scabies, can be identified in skin scrapings by demonstrating the mite, eggs, or scybala.

CASE SUMMARY

A patient presented to the Mycology Department for KOH examination of a skin specimen with a clinical suspicion of superficial fungal infection. The specimen was processed by routine KOH preparation and examined microscopically. No fungal hyphae or yeast forms were identified. Instead, an arthropod was observed on microscopy and further examined for characteristic morphological features.

KEY FINDINGS

Microscopy revealed a rounded mite-like organism with characteristic morphological features consistent with Sarcoptes scabiei. The unexpected finding prompted communication with the treating clinician and consideration of scabies as the underlying diagnosis. This case highlights the diagnostic value of meticulous examination of KOH preparations, even when the clinical suspicion is primarily mycological.
Microscopy revealed a rounded mite-like organism with characteristic morphological features consistent with Sarcoptes scabiei. The unexpected finding prompted communication with the treating clinician and consideration of scabies as the underlying diagnosis. This case highlights the diagnostic value of meticulous examination of KOH preparations, even when the clinical suspicion is primarily mycological.

CONCLUSIONS

Routine KOH examination can occasionally provide an unexpected diagnosis beyond superficial fungal infections. Awareness of the microscopic morphology of Sarcoptes scabiei and careful evaluation of skin specimens are essential to avoid overlooking ectoparasitic infections and to facilitate timely and appropriate management.

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Abstract 019 ASPICON 2026 | October 08 - 11 | 2026

Pulmonary and Renal Mucormycosis: A Case Series from North India/Beyond the Hospital Bed: Real-World Clinical Outcomes and Economic Impact of a Structured OPAT Programme at a Tertiary Hospital

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BACKGROUND

Prolonged parenteral antimicrobial therapy often necessitates continued hospitalization despite clinical stability, consuming hospital resources and increasing patient burden. Outpatient parenteral antimicrobial therapy (OPAT) offers an alternative, but safe transition requires structured clinical assessment, logistical feasibility, caregiver support, monitoring and, importantly, shared decision-making. We evaluated the clinical profile and outcomes of an ongoing OPAT programme and explored its emerging economic impact.

MATERIAL & METHODOLOGY

We analyzed 159 patients receiving OPAT during 2024–2026 at a tertiary-care centre. Demographics, infectious indications, antimicrobial regimen, duration, administration setting, eligibility parameters and outcomes were recorded using a structured checklist assessing clinical stability, need for inpatient intervention, safe parenteral administration, caregiver capability, drug storage, follow-up, telemonitoring, infection-control practices, antimicrobial stewardship and patient preference. A nested economic analysis of 25 patients with currently available cost data was performed. Additionally, four patients who were clinically and logistically feasible for OPAT but did not proceed because the patient/family preferred continued hospital-based treatment were included as a real-world comparator for economic assessment.

RESULTS

The 159-patient cohort represented diverse infections including complicated UTI/pyelonephritis, pneumonia, enteric fever, liver/renal abscesses, meningitis/meningoencephalitis, infective endocarditis, CRBSI and infected wounds. OPAT was delivered at home or nursing homes by trained family members or local nurses. Treatment completion was documented in 140/159 (88.1%) patients; 14 (8.8%) were lost to follow-up, with a small number experiencing readmission or mortality. Among 25 patients with available cost data, 147 OPAT-days were recorded, with mean duration 5.88 days and mean modelled cost ₹4,650/patient. The four OPAT-feasible but patient-declined cases had mean inpatient duration 6.2 days and mean modelled cost ₹9,670/patient, demonstrating a substantial preliminary economic difference favouring OPAT.

CONCLUSION

Structured OPAT enabled continuation of parenteral antimicrobial therapy outside hospital with favourable real-world outcomes. Preliminary economic findings suggest considerable potential resource savings, while the four comparator patients highlight that patient preference remains a decisive component of OPAT eligibility. Ongoing cost accrual will provide a more robust assessment of OPAT's economic impact.

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Abstract 020 ASPICON 2026 | October 08 - 11 | 2026

A Holistic Assessment of Turnaround Time in Blood Culture Diagnostics: Insights from a Tertiary Care Hospital

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BACKGROUND

Bloodstream infections (BSIs) require rapid diagnosis and timely antimicrobial therapy. Turnaround time (TAT) across the diagnostic pathway significantly influences patient outcomes and antimicrobial stewardship. Reducing TAT requires interventions across all phases of the diagnostic process, from the decision to collect a blood culture sample to the clinical decision-making based on culture results, rather than focusing solely on the analytical phase. This study aims to evaluate TAT at multiple stages of the pre-analytical, analytical, and post-analytical phases, thereby identifying potential areas for improvement and strategies to reduce the overall TAT.

MATERIAL & METHODOLOGY

A 12-month descriptive study was conducted on 421 positively flagged blood culture samples. TAT across laboratory, ward, and antimicrobial stewardship (AMS) phases were assessed using electronic laboratory data. Time to positivity was deducted from the laboratory TAT during analysis, as it varies according to the organism type and the microbial load in the sample. Preliminary (Gram stain/Direct MALDI-TOF), direct susceptibility testing, and automated VITEK AST reports were evaluated. Proportions exceeding predefined acceptable TAT limits were analyzed.

RESULTS

The mean laboratory TAT for preliminary reporting was 3 hours 30 minutes, with 40.14% exceeding acceptable limits. Ward and AMS TAT exceeded thresholds in 54% and 42.6% of cases, respectively. DST showed higher delays, with 63.94% exceeding laboratory and 67% exceeding ward TAT limits. In contrast, VITEK AST showed better compliance, with only 9.24% exceeding laboratory TAT limits.

CONCLUSION

Optimizing workflow, improving communication, and strengthening antimicrobial stewardship are essential to enhance the clinical impact of rapid diagnostics.

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Abstract 021 ASPICON 2026 | October 08 - 11 | 2026

Hidden In Plain Sight Unveiling the "Pseudo"

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BACKGROUND

Melioidosis, caused by Burkholderia pseudomallei, is an emerging and potentially fatal infection with diverse clinical manifestations. Diabetes mellitus and chronic alcohol use are important risk factors. Its ability to mimic other gram-negative infections, particularly Pseudomonas aeruginosa, may result in delayed recognition and inappropriate antimicrobial therapy. We report a rapidly progressive case of disseminated melioidosis with pulmonary, musculoskeletal and neurological involvement in a young man.

MATERIAL & METHODOLOGY

A 33-year-old male, mason by occupation, with untreated diabetes mellitus and chronic alcohol use presented with fever and inflammatory polyarthritis for 1½ months, progressive left lower-limb swelling for 25 days and acute worsening dyspnea for 7 days. He was febrile, tachypneic and hypoxemic at admission, with cellulitis-like left lower-limb swelling and tenderness involving multiple joints. Investigations included blood and pus cultures, chest imaging, echocardiography and evaluation for autoimmune, thromboembolic and mycobacterial causes.

RESULT

Initial investigations revealed severe hyperglycemia (HbA1c 11.4%), elevated procalcitonin (9.13 ng/mL), anemia, hypoalbuminemia and hypoxemia. Chest radiography demonstrated bilateral nodular opacities. Lower-limb Doppler excluded deep-vein thrombosis. Blood culture initially grew Pseudomonas aeruginosa, prompting broad-spectrum antimicrobial therapy. Subsequently, aspiration of a left knee collection yielded pus, while imaging demonstrated calf pyomyositis. Pus culture initially grew Pseudomonas aeruginosa but under suspicion was asked for review which showed Burkholderia pseudomallei. The patient developed acute neurological deficits with cerebral edema, followed by progressive respiratory failure and shock. Despite escalation to ceftazidime- avibactam with aztreonam & bactrim ds and intensive supportive care, he developed polymorphic ventricular tachycardia, cardiac arrest and died on day 7. The final diagnosis was disseminated melioidosis with pulmonary, joint and CNS involvement with multiorgan dysfunction.

CONCLUSIONS

Disseminated melioidosis should be considered in patients with diabetes, alcohol use and multifocal abscesses or unusual combinations of pulmonary, musculoskeletal and neurological disease. B. pseudomallei may mimic P. aeruginosa microbiologically, emphasizing the importance of careful identification and antimicrobial susceptibility testing. Early recognition and appropriate therapy are crucial to improve outcomes.

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Abstract 022 ASPICON 2026 | October 08 - 11 | 2026

A Storm Beyond Hypersensitivity: Dapsone Hypersensitivity Syndrome Complicated by Hemophagocytic Lymphohistiocytosis in HIV

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BACKGROUND

Dapsone is a drug for many from leprosy , PCP pneumonia to dermatitis herpetiformis. And adverse effects from simple rash to life threatening organ dysfunction hepatitis, fulminant necrosis, acute liver failure, myositis, rhabdomyolysis, acute nephritis, acute renal failure, hemolytic anemia, marrow suppression, ARDS even Hemophagocytic lymphohistocytosis.

CASE SUMMARY

31 year old PLHIV on TLD regime started on MDT –MB 5 weeks back for Leprosy presented with high grade fever; rashes over face and upper trunk; jaundice and seizure followed by altered sensorium over the duration of 5 days. Managed in outside hospital as Sepsis with antibiotics and antivirals . Patient nonresponsive to treatment was referred to AIIMS was managed in lines of Sepsis and Drug hypersensitivity syndrome. Patient had multiorgan dysfunction acute kidney injury, acute liver failure encephalopathy , rhabdomyolysis, acute respiratory distress syndrome. Patient had persistent pancytopenia,with raising CRP and normalising Procalcitonin possibility of HLH(Hemophagocytic lymphohistocytosis).

KEY FINDINGS

- Temporal association of start of Dapsone and development of Drug hypersensitivity syndrome
- Patient had persistent fever,pancytopenia , raising CRP, normalizing procalcitonin , hypertriglyceridemia, hyperferritinemia, hypofibrinogenemia and bone marrow aspirate showing hypocellular marrow along with erythrophagocytes.
- HLH the unreported adverse event of Dapsone hypersensitivity syndrome which responded to Dexamethasone and Plasma exchange.

CONCLUSIONS

Drug hypersensitivity can closely mimic infection, but treatment approaches differ significantly. Prompt clinical suspicion, early diagnosis, and stopping the offending drug, timely glucocorticoid therapy, Plasma exchange/ IVIG can be lifesaving. HLA-B* 1301 screening should be considered in Asian population before starting dapsone.

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Abstract 023 ASPICON 2026 | October 08 - 11 | 2026

An Antimicrobial Safety Toolkit (AST) for Implementation of Antimicrobial Safety Stewardship: A Quality Improvement Project

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BACKGROUND

Antimicrobial stewardship programs largely focus on prescribing decisions with limited attention to how antibiotics are actually prepared and administered at the bedside. Errors in reconstitution, dilution, infusion timing and documentation can compromise both patient safety and treatment efficacy. This study evaluated whether a structured Antimicrobial Safety Toolkit (AST) combined with a targeted educational intervention could improve safe intravenous antimicrobial administration practices in a busy emergency setting.

MATERIAL & METHODOLOGY

A quasi-experimental, pre-post quality improvement study was conducted over three months in the Trauma and Emergency Unit of a tertiary care teaching hospital, focusing on five high-use antimicrobials: ceftriaxone, piperacillin-tazobactam, meropenem, vancomycin and linezolid. The study proceeded in three phases: baseline observation using the AST checklist, a Focus Group Discussion (22 participants) followed by an educational session addressing identified gaps and post-intervention reassessment using the same checklist. Compliance across allergy testing, prescription/infusion documentation, preparation and administration technique and safe injection practices was compared between 50 pre-intervention and 52 post-intervention observations.

RESULTS

Core prescribing practices, including dose accuracy, order verification and aseptic preparation, were near optimal both before and after the educational intervention. Documentation of infusion duration and rate improved substantially, increasing from 0% at baseline to 62.5– 100% following the intervention across the evaluated drugs. Adherence to recommended infusion times also improved for ceftriaxone (63.6% to 83.3%), piperacillin- tazobactam (64.7% to 81.3%) and vancomycin (60.0% to 83.3%). Disinfection of vial rubber septa increased from 0% to 53.8%, while hand hygiene compliance improved from 72.0% to 78.8%. Unwarranted allergy testing declined following the intervention, whereas documentation of allergy test results improved substantially.

CONCLUSIONS

A validated observational toolkit paired with brief, targeted education meaningfully strengthened bedside antimicrobial safety, particularly in documentation and infusion practices, while preserving already-strong baseline behaviors. Sustained improvement will require ongoing reinforcement and integration into broader stewardship efforts.

KEYWORDS

Antimicrobial stewardship; Antimicrobial safety; Intravenous antimicrobial administration; Antimicrobial Safety Toolkit; Medication safety; Infusion practices; Educational intervention; Quality improvement; Safe injection practices.

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Abstract 024 ASPICON 2026 | October 08 - 11 | 2026

Fatal Viral Encephalitis Complicated by Carbapenem-Resistant Acinetobacter baumannii VAP: Navigating Diagnostic Delay and Antimicrobial Stewardship

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BACKGROUND

Prolonged empirical broad-spectrum therapy in undiagnosed febrile encephalopathy can increase antimicrobial selection pressure and the risk of secondary nosocomial multidrug-resistant (MDR) infections when diagnostic delay persists.

CASE SUMMARY

A 30-year-old woman from Baloda Bazar, Chhattisgarh, with 30 days of fever and headache, progressing over the preceding 3 days to altered sensorium (GCS E2V1M1), presented in severe septic shock (BP 62/32 mmHg) requiring inotropic support and mechanical ventilation. She was treated empirically with vancomycin, piperacillin-tazobactam (escalated to meropenem), doxycycline, and artesunate. Lumbar puncture was deferred due to thrombocytopenia, delaying etiological diagnosis. On day 10, MRI brain showed bilateral T2/FLAIR hyperintensities involving the centrum ovale, occipital and temporal cortices, and periventricular, thalamic, and cerebellar regions with associated edema. Serum multiplex PCR detected HSV-1, adenovirus, and CMV; acyclovir was subsequently initiated. Meanwhile, prolonged ventilation and broad-spectrum antimicrobial exposure were followed by ventilator-associated pneumonia due to carbapenem-resistant Acinetobacter baumannii (CRAB), managed with polymyxin B and sulbactam. Urine cultures also grew E. coli and E. faecium. The patient died on day 11 from refractory septic shock.

KEY FINDINGS

A nine-day delay preceded pathogen-directed therapy. Triple viral PCR positivity created a diagnostic-stewardship challenge, requiring careful interpretation in clinical context. Prolonged empirical antimicrobial exposure may have contributed to selection pressure favouring MDR nosocomial organisms.

CONCLUSIONS

When CSF sampling is contraindicated, alternative-site molecular testing should be pursued early, with cautious interpretation of multiplex viral panels to avoid attributing causality to every positive viral detection. Time-bound reassessment of empirical antimicrobials, rather than prolonged broad-spectrum continuation, is essential to minimize selection pressure and reduce MDR nosocomial infections like CRAB-VAP.

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Abstract 025 ASPICON 2026 | October 08 - 11 | 2026

Pre-Seminar Knowledge Assessment of Adult Immunization Among Postgraduate Residents: A Cross-Sectional Survey from a Tertiary Care Institute in India

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BACKGROUND

Adult immunization is widely underused in clinical practice, even though CDC/ACIP, WHO, and API 2026 guidelines recommend it. Postgraduate residents are usually the first physicians to counsel and vaccinate adult patients, but their own vaccine knowledge and vaccination status are not well studied. We surveyed residents before an adult immunization seminar to assess their knowledge of vaccine brands, costs, and dosing schedules, along with self-vaccination status and prescribing practices.

MATERIAL & METHOD

A short, anonymous Google Forms questionnaire was administered to postgraduate residents and faculty of the Department of General Medicine, AIIMS Rishikesh, five minutes before a structured seminar on adult immunization. It covered five domains — demographics, brand-name recognition for seven vaccines, cost knowledge (7 MCQs), schedule/dosing knowledge (6 MCQs), and HCW self-vaccination status and practice. Responses were analyzed in Python (pandas), and mean knowledge scores were calculated.

RESULT

33 residents and faculty responded, mostly JRs (87.9%). About three-fourths (75.8%) could name at least one vaccine brand, though only one named all seven. Cost knowledge was poor overall (mean 44.5%), worst for Td (22.6% correct; two-thirds underestimated its price) and influenza (22.6% correct; over half overestimated it). Schedule knowledge was better (mean 74.1%): hepatitis B (96.9%) and influenza (93.3%) were well known, but Tdap timing in pregnancy (46.9%) and the WHO rabies pre-exposure schedule (51.6%) were not. Self-vaccination was high for COVID-19 (87.9%) and hepatitis B (78.8%) but low for influenza (9.1%), varicella (6.1%), and herpes zoster (3.0%). All respondents had counselled at least 1–15 patients in six months; 15.6% counselled over 50. Main barriers were lack of awareness (28.1%) and time (25.0%).

CONCLUSION

Residents know vaccine schedules better than costs or brand names, and despite actively recommending vaccines, many remain unvaccinated themselves, especially against influenza. Structured pre-seminar surveys can help identify such gaps and guide targeted teaching and institutional HCW vaccination programmes.

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Abstract 026 ASPICON 2026 | October 08 - 11 | 2026

Utility of a Fully Automated, High-throughput, Molecular Testing Platform in Curbing Transmission of SARS-CoV-2 in Comparison with the Standard RT-PCR Test Protocol by NIVICMR

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BACKGROUND

Rapid increase in COVID-19 cases globally, necessitates increase in diagnostic capacities to curb down transmission, immediate diagnosis and taking preventive measures. This study is to evaluate, Roche cobas6800 real time RT-PCR (rRT-PCR) test for SARS-CoV- 2 RNA, against gold standard National Institute of Virology – ICMR (NIV- ICMR) protocolbased rRT-PCR test.

MATERIALS & METHODOLOGY

Anonymous unlinked testing of retrospective nasopharyngeal and oropharyngeal swab samples, transported in viral transport medium, conducted in Virology Laboratory, AIIMS, Delhi. Samples, that were positive or negative by rRT-PCR test by NIV-ICMR test; were retested by cobas. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) of cobas was compared with gold standard NIV-ICMR test.

RESULT

Total 125 retrospective anonymous samples were included. Of these samples, 48 were positive, 68 were negative and 9 were inconclusive by ICMR-NIV test. On retesting by cobas, SARS-CoV-2 RNA was 'Detected' in 48 samples, 'Not detected' in 50 samples and 27 samples were 'Presumptive positive'. Comparing with ICMR-NIV test, cobas showed 100% sensitivity, 90.7% specificity, 100% NPV, 90% PPV. There were 93.4% and 90.9% correlation between these two tests for detecting E gene (p 0.001) and ORF1a gene (p 0.001), respectively. Intraclass correlation coefficient of E gene is 96.6% and ORF1a gene is 94.9%.

CONCLUSION

Cobas detected more positive samples in comparison to ICMR-NIV test. Most 'inconclusive' samples by ICMR-NIV test were presumptive positive in cobas. In view of decreasing human to human transmission, higher detection rate by cobas, may have some implications in future epidemic and pandemics also. Detection of low viral load samples, even if for a single gene, may have been helpful for individuals to isolate quickly and break chains of community transmission. High-throughput, molecular testing platforms can play an important role in contact tracing which helps public health teams to monitor and contain local outbreaks.

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Abstract 027 ASPICON 2026 | October 08 - 11 | 2026

Clinical Dengue Infections Among Hospitalized Patients: A Retrospective Study of a Decade

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BACKGROUND

Dengue shows a broad clinical spectrum from uncomplicated dengue fever (DF) to severe dengue (SD), with considerable regional variation. This study described the demographic, clinical, laboratory, treatment, and outcome profile of hospitalised dengue patients at a North Indian tertiary centre (2017–2026), emphasising disease severity and Himalayan versus Non-Himalaya.

MATERIAL & METHODOLOGY

A retrospective cross-sectional study was conducted at AIIMS Rishikesh. Laboratory-confirmed and clinically diagnosed dengue admissions (2017–2026) were classified by the WHO 2009 criteria and, by residence, into Himalayan (Uttarakhand hill districts, excluding Haridwar) and Non-Himalayan (Haridwar plus plains districts/other states). Statistical analysis was performed using appropriate comparative tests, with $p<0.05$ considered.

RESULT

Of 420 patients (DF 152, DFWS 151, SD 117), age and sex were comparable across severity groups. Multiple clinical features (headache, vomiting, myalgia, abdominal pain, bleeding, breathlessness, altered mental status) and hepatic, renal and haematological parameters varied significantly with severity. SD carried the longest stay and markedly higher mortality (25.6% vs 0.7% DF, 0% DFWS), with greater need for blood transfusion, steroids, inotropes and mechanical ventilation. Geographically (Himalayan n=217; Non-Himalayan n=203), sever of 420 patients (DF 152, DFWS 151, SD 117), age and sex were comparable across severity groups. Multiple clinical features (headache, vomiting, myalgia, abdominal pain, bleeding, breathlessness, altered mental status) and hepatic, renal and haematological parameters varied significantly with severity. SD carried the longest stay and markedly higher mortality (25.6% vs 0.7% DF, 0% DFWS), with greater need for blood transfusion, steroids, inotropes and mechanical ventilation. Geographically (Himalayan n=217; Non-Himalayan n=203), severe.

CONCLUSION

Dengue severity and outcomes differed markedly across WHO categories and by geography. Non-Himalayan (Haridwar/plains) residence was associated with more severe dengue, longer hospitalisation and over three-fold higher mortality than Himalayan hill-district residence, supporting region-specific risk stratification and earlier referral.

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Abstract 028 ASPICON 2026 | October 08 - 11 | 2026

Prevalence of Candiduria, Characterization and Antifungal Susceptibility in a Tertiary Care Hospital, AIMSR Bathinda

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BACKGROUND

Candiduria is an important fungal infection among hospitalized patients and may range from colonization to symptomatic infection and invasive disease. Increasing Candida diversity and antifungal resistance make species identification and susceptibility testing important. This study determined the prevalence of candiduria, characterized Candida species isolated from urine, and assessed their antifungal susceptibility pattern.

MATERIAL & METHODOLOGY

A prospective cross-sectional study was conducted in the Bacteriology Section, Department of Microbiology, Adesh Institute of Medical Sciences and Research, Bathinda, over six months. A total of 274 urine samples from hospitalized patients with suspected urinary tract infection were processed using standard methods. Samples underwent wet mount microscopy and culture. Candida isolates were characterized using germ tube testing, colony morphology, CHROMagar Candida and Corn Meal Agar, with identification confirmed by VITEK-2 Compact. Antifungal susceptibility testing was performed using VITEK-2. Relevant clinical data.

RESULT

Significant fungal growth was detected in 55 of 274 samples, giving a candiduria prevalence of 20.07%. Males constituted 52.73% and females 47.27% of cases. The highest occurrence was in the 70–79-year age group; 78.18% were symptomatic. Prolonged antibiotic use was the most common associated factor (87.27%), followed by prolonged hospital stay (80%), indwelling urinary catheterization (76.36%), hypertension (60%) and diabetes mellitus (58.18%). Candida albicans was predominant, accounting for 61.82% (34/55) of isolates, followed by C. tropicalis (16.36%) and C. guilliermondii (7.24%). Corn Meal Agar showed 100% agreement with VITEK-2, while CHROMagar correctly identified 92.73% of isolates. Most isolates were susceptible to amphotericin B, voriconazole, caspofungin and micafungin; fluconazole showed the highest resistance (14.71%).

CONCLUSION

Candiduria represented a substantial burden among hospitalized patients in this setting. C. albicans remained predominant, while non-albicans Candida constituted a considerable proportion and showed relatively greater antifungal resistance. Early diagnosis, species identification and routine antifungal susceptibility testing are important for guiding appropriate therapy and reducing.

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Abstract 029 ASPICON 2026 | October 08 - 11 | 2026

Fosfomycin Susceptibility in Multi Drug Resistant Uropathogenic Isolates of Escherichia Coli in a Tertiary Care Hospital

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BACKGROUND

Urinary tract infections (UTI) are common bacterial infections, with uropathogenic Escherichia coli being a predominant causative organism. Increasing multidrug resistance (MDR) among E. coli has limited therapeutic options, creating a need to evaluate alternative agents such as fosfomycin. This study was undertaken to determine fosfomycin susceptibility among MDR uropathogenic E. coli isolates and to assess their antimicrobial susceptibility profile.

MATERIAL & METHODOLOGY

A prospective, cross-sectional study was conducted in the Bacteriology section of the Department of Microbiology, AIMSR, Bathinda, over a period of six months. A total of 366 urine samples from clinically suspected UTI cases were processed using standard microbiological methods. E. coli isolates were identified by microscopy, culture, colony characteristics, Gram staining, Biochemical reactions and other confirmatory tests. Antimicrobial susceptibility testing was performed, and fosfomycin susceptibility was assessed among the E. coli isolates. Colistin susceptibility was determined by broth microdilution, while ESBL and MBL production were evaluated by phenotypic methods.

RESULT

Of 366 urine samples, 124 (33.87%) showed significant bacterial growth, while 242 (66.13%) were culture negative. E. coli was the most frequently isolated organism, accounting for 45.16% of culture-positive isolates, with 56 E. coli isolates recovered overall. Among these, 53 (94.64%) were susceptible to fosfomycin and 3 (5.36%) were resistant. Fosfomycin showed the highest susceptibility, followed by nitrofurantoin (80.35%) and imipenem, meropenem and Cefoperazone/sulbactam (64.28% each). ESBL production was detected in 60.71% and MBL production in 19.65% of E. coli isolates. Colistin susceptibility was 87.5%, with 12.5% resistance.

CONCLUSIONS

Fosfomycin demonstrated high in-vitro activity against MDR uropathogenic E. coli, with a susceptibility rate of 94.64%. The low resistance observed supports its potential value as a therapeutic option for UTIs caused by MDR E. coli. However, continued antimicrobial susceptibility testing, surveillance of emerging resistance and rational use of fosfomycin are essential to preserve its clinical utility.

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Abstract 030 ASPICON 2026 | October 08 - 11 | 2026

Door-to-Antibiotic Time and Outcomes in Pediatric Febrile Neutropenia: A Prospective Study of Microbiological Profile and Antimicrobial Resistance from AIIMS Bathinda

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BACKGROUND

Febrile neutropenia (FN) is a critical oncological emergency in pediatric cancer patients. Understanding local microbiological spectrums and resistance patterns is vital to optimize empirical

MATERIAL & METHODOLOGY

This prospective observational study conducted at AIIMS Bathinda over 18 months evaluated the clinical-microbiological profile, treatment practices, and outcomes of 100 FN episodes in children (≤ 14 years) with hematological or solid malignancies. Crucially, the impact of time-to-antibiotic administration from fever onset (TTA) and door-to-antibiotic time (THA) was analyzed.

RESULT

- **Microbiology:** Bloodstream infections (BSI) occurred in 23% of episodes, predominantly driven by Gram-negative organisms (mainly E. coli).
- **Resistance:** Gram-negative isolates showed reduced susceptibility to piperacillin–tazobactam and third-generation cephalosporins. E. coli remained highly susceptible to aminoglycosides, while Pseudomonas aeruginosa retained 100% susceptibility to antipseudomonal □-lactams, carbapenems, ciprofloxacin, and colistin. Gram-positive isolates were 100% susceptible to vancomycin, teicoplanin, and linezolid.
- **Treatment & Outcomes:** Piperacillin–tazobactam was the primary empirical choice (69.3%), though 51.5% required escalation to secondline therapy. The presence of a clinical focus independently predicted second-line escalation (aOR: 4.17, 95% CI: 1.65– 11.03; □ = 0.0023).
- **Prognostic Factors:** Overall mortality was 6%. Positive blood culture (□ = 0.02) and shock (□ = 0.01) were significantly associated with mortality. Lower baseline TLC and ANC correlated with prolonged hospitalization (□ = 0.0051; □ = 0.0207) and extended antibiotic exposure (□ = 0.0126; □ = 0.0046).
- **Timing:** While TTA did not significantly alter hospital stay (□ = 0.6454), a THA exceeding 60 minutes significantly correlated with prolonged antibiotic exposure (□ = 0.250, □ = 0.043).

CONCLUSIONS

Local microbiological surveillance and aggressive antimicrobial stewardship are vital. Minimizing door-to-antibiotic time (THA) below 60 minutes is crucial to reduce cumulative antibiotic exposure and optimize outcomes in pediatric FN.

KEYWORDS: Febrile neutropenia, pediatric oncology, bloodstream infection, antimicrobial resistance, empirical antibiotics.

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Abstract 031 ASPICON 2026 | October 08 -11 | 2026

Early Experience of an Outpatient Parenteral Antimicrobial Therapy (OPAT) Service Implemented Through Antimicrobial Stewardship Practice Standards: A Two-Month Experience from a Tertiary Care Hospital

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BACKGROUND

Outpatient Parenteral Antimicrobial Therapy (OPAT) is an important antimicrobial stewardship intervention that allows selected patients requiring prolonged intravenous antimicrobial therapy to receive treatment outside conventional inpatient settings. It can facilitate early discharge, reduce hospital stay and bed occupancy, improve patient convenience, and potentially reduce healthcare-associated exposure and costs while maintaining clinical monitoring. Successful implementation requires appropriate patient selection, defined clinical responsibilities, vascular access monitoring, antimicrobial review, and regular follow-up. Our institution initiated an OPAT service as part of implementing one of the 42 practice statements of the Society for Antimicrobial Stewardship Practices of India (SASPI).

OBJECTIVE: To describe the initial experience and early outcomes of implementing an OPAT service over the first two months in a tertiary care hospital.

MATERIAL & METHODOLOGY

An institutional OPAT service was initiated with predefined eligibility criteria, including clinical stability, suitability for outpatient management, availability of a caregiver/trained healthcare support, and informed consent. Patients requiring continued intravenous antimicrobial therapy were assessed and managed through the OPAT/day-care model with scheduled clinical review. Data collected included patient characteristics, diagnosis, antimicrobial prescribed, intended treatment duration, inpatient stay, bed-days saved, and patient experience. The analysis describes the first two prospective collection of clinical, safety, patient-experience, and antimicrobial-use outcomes will further evaluate its impact and sustainability

RESULT

Eleven patients were enrolled; all were females aged 18–66 years with complicated urinary tract infection. Intravenous antimicrobials included meropenem, ceftriaxone, piperacillin-tazobactam, linezolid, vancomycin, and fluconazole. Intended treatment duration ranged from 7–21 days. Where inpatient duration and bed-day data were available, the programme resulted in a cumulative saving of 136 inpatient bed-days. Patient experience was assessed using a structured questionnaire. The service was subsequently extended to selected surgical patients; outcome data for this group are not yet available.

CONCLUSIONS

The initial two-month experience demonstrates the feasibility of introducing OPAT as a practical antimicrobial stewardship intervention through implementation of SASPI practice statements. The programme enabled continued intravenous antimicrobial therapy while reducing inpatient bed utilization. Expansion to surgical patients and prospective collection of clinical, safety, patient-experience, and antimicrobial-use outcomes will further evaluate its impact and sustainability.

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Abstract 032 ASPICON 2026 | October 08 - 11 | 2026

Cefepime-Enmetazobactam Susceptibility among Gram Negative Pathogens Isolated from a Tertiary Care Hospital

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BACKGROUND

Rising rates of ESBL-producing and carbapenem resistant Gram-negative bacilli have progressively eroded the use of β-lactam agents, driving greater dependence on carbapenems, whose overuse further threatens escalation in resistance. This study assessed in vitro efficacy of cefepime-enmetazobactam against Gram-negative clinical isolates, focusing specifically on ESBL producing and carbapenem-resistant organisms.

MATERIAL & METHODOLOGY

This cross-sectional study was carried out over a three month period in a tertiary care hospital of Delhi. A total of 100 gram negative isolates obtained from routine clinical specimens were characterized using standard phenotypic identification protocols. Antimicrobial susceptibility testing was carried out via Kirby-Bauer disk diffusion method, and MIC for cefepimeenmetazobactam was established using E-strip. ESBL production was confirmed phenotypically, and results were interpreted as per CLSI and EUCAST criteria.

RESULT

Enterobacter sp. constituted the largest proportion (51%), followed by Klebsiella pneumoniae (22%) and Escherichia coli (14%). ESBL production was identified in 42% of isolates, and carbapenem resistance was seen across both ESBL positive and ESBL negative groups. Among ESBL producers, cefepime-enmetazobactam showed 66.7% susceptibility, compared with 12.5% seen with piperacillin-tazobactam. It also maintained efficacy against carbapenem-resistant strains, surpassing both piperacillin-tazobactam and third-generation Enterobacter sp. constituted the largest proportion (51%), followed by Klebsiella pneumoniae (22%) and Escherichia coli (14%). ESBL production was identified in 42% of isolates, and carbapenem resistance was seen across both ESBL positive and ESBL negative groups. Among ESBL producers, cefepime-enmetazobactam showed 66.7% susceptibility, compared with 12.5% seen with piperacillin-tazobactam. It also maintained efficacy against carbapenem-resistant strains, surpassing both piperacillin-tazobactam and third-generation

CONCLUSION

Roughly two-thirds of ESBL producing isolates remained susceptible to cefepimeenmetazobactam, indicating a clear advantage over piperacillin-tazobactam. Since this data emerges from routine clinical practice at a tertiary care hospital, it lends practical support to positioning cefepime-enmetazobactam as a carbapenem sparing treatment alternative. This study highlights the need for larger multicentric studies incorporating molecular profiling and correlation with the clinical outcome.

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Abstract 033 ASPICON 2026 | October 08 - 11 | 2026

Advancing Rational Antibiotic Therapy Through Nurse-Led Antimicrobial Stewardship and Clinical Feedback in Emergency Unit of a Tertiary Care Centre.

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BACKGROUND

Early antimicrobial decisions in emergency care influence subsequent treatment and patient outcomes. This study evaluated a nurse-led antimicrobial stewardship (AMS) approach to improve antimicrobial prescribing and assessed the sustainability of these practices in a tertiary-care medical emergency unit.

MATERIAL & METHODOLOGY

A nurse-led AMS approach integrated into emergency care may improve antimicrobial prescribing, diagnostic utilisation, and adherence to institutionalguidelines.The sustainability phase will determine whether these improvements are maintained over time and may support the feasibility of nurse-driven AMS as a sustainable strategy in high-volume acute care settings.

RESULT

Preliminary Phase I findings showed that compliance with institutional antibiotic guidelines increased from 82.4% at baseline to 91.0% post-intervention. Culture testing before antibiotic initiation increased from 23.0% to 40.3%, while culture positivity increased from 8.0% to 22.0%. Antibiotic de-escalation practices also improved. Phase II sustainability analysis is ongoing.

CONCLUSIONS

This quasi-experimental study comprised two phases. Phase I included systematic observation of baseline prescribing practices followed by a nurse-led AMS intervention comprising prospective prescription review, reinforcement of institutional guidelines, promotion of appropriate diagnostic utilisation, and audit-feedback. Phase II assessed the sustainability of implemented AMS practices. Demographic, clinical, microbiological, prescribing, diagnostic utilisation, and guideline-adherence data were collected and compared accross phases.

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Abstract 034 ASPICON 2026 | October 08 - 11 | 2026

Mapping Nurses' Knowledge and Understanding Their Perspectives on Antimicrobial Stewardship: A Systematic Review

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BACKGROUND

Antimicrobial stewardship (AMS) is a fundamental component of the global response to antimicrobial resistance (AMR), aiming to optimise antimicrobial use while safeguarding patient outcomes and reducing the emergence of resistance. Nurses are increasingly recognised as important contributors to antimicrobial-related care and stewardship activities across healthcare settings. Evaluating nurses' knowledge and attitudes towards AMS is essential for identifying educational and organisational gaps and informing strategies to strengthen their participation in stewardship initiatives.

MATERIAL & METHODOLOGY

The review followed the PRISMA framework to ensure a systematic and transparent approach to study identification and selection. Relevant literature published during the previous decade was searched across five electronic databases: PubMed/MEDLINE, Scopus, Web of Science, Google Scholar, and the Cochrane Library. Peer-reviewed studies examining nurses' knowledge, attitudes on antimicrobial stewardship were considered for inclusion.

RESULT

Following a comprehensive literature screening of 582 initial records, 9 studies fulfilled all eligibility criteria and were selected for final review. The compiled literature demonstrated a high degree of heterogeneity regarding nurses' comprehension and attitudes toward AMS.A stratified analysis of baseline knowledge revealed that 66.7% of the included studies identified limited knowledge levels, whereas 22.2% and 11.1% reported good and excellent knowledge, respectively. Conversely, behavioral attitudes and perceived readiness to participate in AMS initiatives were predominantly favorable, with positive attitudes recorded in 77.8% of the literature. The remaining 22.2% of the studies lacked the necessary metrics to facilitate a assessment of attitudes.

CONCLUSIONS

Despite the fact that nurses' views and willingness to participate in AMS were largely positive, there are still significant knowledge gaps. Enhancing AMS teaching, outlining nurses' roles, and offering continuous organizational support could improve baseline nurses' knowledge and involvement in antimicrobial optimization and make it easier to incorporate AMS into standard clinical practice.

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Abstract 035 ASPICON 2026 | October 08 - 11 | 2026

Use of Concentration-Dependent Antibiotics – Fluoroquinolones as Prophylaxis in Spontaneous Bacterial Peritonitis: A Longitudinal Study in a Tertiary Care Hospital

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BACKGROUND

Spontaneous bacterial peritonitis (SBP) is a life threatening complication of cirrhosis with ascites, carrying one- and two-year mortality exceeding 70% and 80%. Fluoroquinolones, the cornerstone of prophylaxis, are concentration-dependent bactericidal agents whose high peak-to-MIC ratio and post-antibiotic effect permit once-daily dosing for selective gut decontamination. Real-world longitudinal Indian data are sparse. We evaluated prescribing patterns, guideline adherence, and sixmonth outcomes in SBP.

MATERIAL & METHODOLOGY

15-month longitudinal study at a tertiary care hospital in Northern India. Adults (aged 18 years and above) admitted with SBP and initiated on fluoroquinolone prophylaxis were enrolled consecutively and followed for six months. SBP was defined by an ascitic fluid polymorphonuclear count of at least 250 cells/mm3. Prescribing practices were compared against EASL and AASLD recommendations. The primary outcome was guideline-directed prescribing. Secondary outcomes included cure at discharge and six months, relapse, regimen modification, adverse drug reactions, and compliance. Clinical outcomes were analyzed by intention-to-treat; compliance and adverse events per protocol. Categorical variables were compared by Fisher's exact or chisquared tests.

RESULT

Forty-eight patients were included (mean age 44.75 ± 11.94 years; 85.4% male). All patients received guideline-directed prophylaxis (100%). Norfloxacin 400 mg once daily predominated (85.4%), followed by levofloxacin (10.4%) and moxifloxacin (4.2%). Cure at discharge was 85.4%. At six months, 64.6% sustained cure, 22.9% relapsed, and 6.3% died from unrelated causes. Regimen modification occurred in 22.9%, mostly antimicrobial substitution. Nausea was the only adverse reaction (4.8%). Treatment compliance was 73.8%. No patient underwent therapeutic drug monitoring.

CONCLUSIONS

prophylaxis in our hospital was fully guideline-concordant. Despite complete adherence, relapse in 22.9% and frequent regimen modification underscore the limits of prolonged prophylaxis, likely reflecting emerging resistance eroding the peak-to-MIC margin underpinning once-daily dosing. Six-month mortality (6.3%) reflected underlying liver disease, not prophylaxis failure. PK/PD-guided dose optimization and stewardship are essential to preserve effectiveness.

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Abstract 036 ASPICON 2026 | October 08 - 11 | 2026

Microbial Profile and Antibiotic Susceptibility Pattern of Wound Infections in a Tertiary Care Hospital

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BACKGROUND

Wound infections pose severe clinical challenges due to rising antimicrobial resistance. Local surveillance of pathogen profiles and resistance mechanisms is vital for guiding effective therapy.

MATERIAL & METHODOLOGY

A prospective, cross-sectional study was conducted on 232 clinical specimens from suspected wound infections at AIMSR, Bathinda over a period of six months. The samples were processed using standard microbiological techniques and the results were compared with VITEK 2 compact automated systems. Antimicrobial susceptibility testing (AST) was performed using the Kirby-Bauer disc diffusion method in strict accordance with Clinical and Laboratory Standards Institute (CLSI) guidelines. Resistance mechanisms were screened for ESBL, AmpC, MBL production using phenotypic confirmatory tests. Multidrug resistance (MDR) was defined as nonsusceptibility to at least one agent in three or more antimicrobial categories.

RESULT

Among the 232 specimens, culture positivity was 47.84% (111/232), yielding 160 isolates (97.5% aerobes, 2.5% anaerobes). Tissue biopsies (86.67%) and deep aspirates (75.0%) provided significantly higher yields than superficial swabs (26.32%; $p < 0.001$). Direct microscopy sensitivity was 80.18%. Wound infections were more common in males (63.06%) and age group 41–60 years (35.14%). Lower limbs were the most affected site (61.26%).

Monomicrobial infections constituted 66.67%. Primary comorbidities included diabetes (61.26%) and hypertension (42.34%). Gram-negative bacilli predominated (72.5%), led by Escherichia coli (25.0%), Pseudomonas aeruginosa (18.13%), and Klebsiella pneumoniae (18.13%). Staphylococcus aureus was the main single pathogen (26.25%), with a 64.29% MRSA rate. Overall MDR prevalence among Gram-negative isolates was 40.68%. Expression rates for ESBL, AmpC, and MBL were 50.85%, 44.92%, and 51.69%, respectively. Acinetobacter baumannii exhibited a 90.91% MDR rate and 100% resistance to carbapenems, aminoglycosides, and fluoroquinolones. Colistin showed maximum activity against Gram-negatives.

CONCLUSIONS

Biopsies and aspirates are superior to superficial swabs for pathogen detection. High rates of MRSA, ESBL, and MBL necessitate robust local antimicrobial stewardship and targeted treatment strategies.

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Abstract 037 ASPICON 2026 | October 08 - 11 | 2026

Bacterial Spectrum and Antimicrobial Resistance Patterns in Pediatric Urinary Tract Infections – A Retrospective Study from a Tertiary Care Hospital in North India

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BACKGROUND

Urinary tract infections are one of the most common bacterial infections in children and are an important cause of morbidity and antibiotic use. Increasing antimicrobial resistance among uropathogens poses a major challenge to effective treatment. Local antimicrobial susceptibility data are essential for guiding appropriate therapy and strengthening antimicrobial stewardship.

MATERIAL & METHODOLOGY

This retrospective observational study was conducted in the Department of Microbiology, AIIMS Jammu, over 24 months (August 2024 to July 2026). The study included urine samples received from patients ≤18 years attending the outpatient and inpatient departments of the hospital with suspected urinary tract infections. Urine cultures yielding significant growth of clinically relevant uropathogens were analysed for the study and repeat isolates from the same patient were excluded. Identification of the organism and antimicrobial susceptibility testing (AST) were done using an automated identification system (VITEK® 2, bioMérieux), and AST results were interpreted as per the CLSI M100 guidelines.

RESULT

Of 1199 urine samples, 721 (60.13%) were from OPD and 478 (39.87%) from IPD patients. Overall culture positivity was 16.01% (192/1199), with positivity rates of 15.11% (109/721) in OPD and 17.36% (83/478) in IPD. Among 192 positive isolates, 179 (93.23%) were Gram-negative bacilli, with Escherichia coli being the major isolate (105/192, 54.69%), followed by Klebsiella pneumoniae (28/192, 14.58%). Gram-positive isolates accounted for 6.77% (13/192), all Enterococcus spp. Of the total isolates, 137 (71.35%) were multidrug resistant. E. coli constituted the largest proportion of MDR isolates (61.31%, 84/137), followed by K. pneumoniae (15.33%, 21/137) and Enterococcus spp. (6.57%, 9/137). Carbapenem resistance was observed in 13.19% of isolates.

Resistance to nitrofurantoin and fosfomycin was comparatively low (4.95% and 4.9% respectively).Of 1199 urine samples, 721 (60.13%) were from OPD and 478 (39.87%) from IPD patients. Overall culture positivity was 16.01% (192/1199), with positivity rates of 15.11% (109/721) in OPD and 17.36% (83/478) in IPD. Among 192 positive isolates, 179 (93.23%) were Gram-negative bacilli, with Escherichia coli being the major isolate (105/192, 54.69%), followed by Klebsiella pneumoniae (28/192, 14.58%). Gram-positive isolates accounted for 6.77% (13/192), all Enterococcus spp. Of the total isolates, 137 (71.35%) were multidrug resistant. E. coli constituted the largest proportion of MDR isolates (61.31%, 84/137), followed by K. pneumoniae (15.33%, 21/137) and Enterococcus spp. (6.57%, 9/137). Carbapenem resistance was observed in 13.19% of isolates. Resistance to nitrofurantoin and fosfomycin was comparatively low (4.95% and 4.9% respectively).

CONCLUSIONS

The high MDR burden and resistance to commonly used antibiotics highlight the need for rational antibiotic use, effective antimicrobial stewardship and continuous local antimicrobial surveillance to guide empirical therapy in paediatric UTI.

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Abstract 038 ASPICON 2026 | October 08 - 11 | 2026

Trends of Neonatal Candidemia In India: A Multicentric Retrospective Study on Species Distribution, Antifungal Susceptibility Patterns and Clinical Outcomes

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BACKGROUND

Neonatal candidemia is an important cause of bloodstream infection and late-onset sepsis in neonatal intensive care units (NICUs). Changing epidemiology, increasing isolation of non-albicans Candida (NAC) species and emergence of antifungal resistance pose significant challenges to diagnosis and therapeutic decision-making. Comprehensive multicentric data on species distribution, regional variation and antifungal susceptibility patterns of Candida bloodstream isolates among neonates in India remain limited.

OBJECTIVE

To determine the epidemiology of neonatal candidemia across participating NICUs in India, including the prevalence of Candida bloodstream infections, distribution of Candida albicans and non- albicans Candida species, regional variation, antifungal susceptibility patterns and prevalence of azole resistance. The study will also assess laboratory identification methods used for Candida identification across participating centres and evaluate available clinical outcome data.

MATERIAL & METHODOLOGY

This is a multicentric, retrospective, observational, laboratory-based study with clinical correlation. The study includes neonates aged 0–28 days admitted to NICUs during the period 1 January 2025 to 30 June 2026 with Candida isolated from blood culture. Only the first isolate per episode with complete laboratory records will be included. Candida species evaluated include C. albicans, C. tropicalis, C. parapsilosis, C. glabrata, C. auris, C. pelliculosa, C. krusei and other Candida species. Identification methods used by participating centres, including conventional methods, BACTEC, BacT/ALERT, MALDI-TOF and VITEK-2, will be documented. Antifungal susceptibility data will be collected using available methods including CLSI disk diffusion, broth microdilution, VITEK-2, Sensititre YeastOne and E-test, with interpretation according to applicable CLSI M60/M27 criteria. The agents evaluated include fluconazole, voriconazole, posaconazole, itraconazole, amphotericin B, micafungin, caspofungin, anidulafungin and flucytosine.

RESULTS

Multicentre data collection and compilation are currently ongoing. The final analysis will provide the overall burden of neonatal candidemia, species- wise distribution with comparison of C. albicans and non-albicans Candida, regional variation, antifungal susceptibility profiles, prevalence of azole resistance and available clinical outcomes. Numerical results and statistical analysis will be incorporated following completion of data submission,

CONCLUSIONS

This multicentric study will provide contemporary Indian data on the epidemiology of neonatal candidemia, Candida species distribution and antifungal susceptibility patterns. The findings are expected to identify regional and species-specific variations in antifungal susceptibility and may support improved laboratory surveillance, species- level identification and susceptibility-guided antifungal management of neonatal candidemia in NICUs.

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KEYWORDS

Neonatal candidemia; Candida; non-albicans Candida; NICU; antifungal susceptibility; azole resistance; multicentric study; India.

AUTHOR NOTE

Additional authors from participating centres will be added after completion of multicentre data contribution and confirmation of authorship.

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Abstract 039 ASPICON 2026 | October 08 - 11 | 2026

Scrub Vasculitis Causing Digital Gangrene: A Peculiar Presentation of Scrub Typhus

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BACKGROUND

Scrub typhus is an important cause of acute febrile illness in India. Orientia tsutsugamushi primarily targets endothelial cells, resulting in endothelial injury, capillary leakage, and systemic vasculitis. Although multiorgan dysfunction is well recognized, peripheral digital gangrene is a rare and potentially limb-threatening complication.

CASE SUMMARY

A 65-year-old man presented with high-grade fever, vomiting, loose stools, and rapidly progressive purpuric lesions over both lower limbs. Investigations revealed thrombocytopenia, acute kidney injury, and marked transaminitis. Scrub typhus IgM ELISA was positive, and treatment with doxycycline and azithromycin was initiated. Despite early antimicrobial therapy, purpura progressed to painful ecchymosis followed by acral ischemia and necrosis involving multiple toes.

KEY FINDINGS

Skin biopsy demonstrated granular IgM deposition along dermal vessels, supporting an immune-mediated vasculitic process. Doppler evaluation revealed diffuse microvascular insufficiency without significant large-vessel obstruction. ANCA-associated vasculitis, meningococcaemia, disseminated intravascular coagulation, autoimmune disorders, and other infectious causes were excluded. The patient received haemodialysis, Skin biopsy demonstrated granular IgM deposition along dermal vessels, supporting an immune-mediated vasculitic process. Doppler evaluation revealed diffuse microvascular insufficiency without significant large-vessel obstruction. ANCA-associated vasculitis, meningococcaemia, disseminated intravascular coagulation, autoimmune disorders, and other infectious causes were excluded.

The patient received haemodialysis, platelet transfusions, pentoxifylline, cilostazol, and antithrombotic therapy, with transition from LMWH to aspirin following platelet recovery. Multidisciplinary management resulted in marked clinical improvement. After two weeks, renal function normalized, fever resolved, and digital gangrene stabilized without proximal extension.

CONCLUSIONS

Digital gangrene is a rare, severe manifestation of scrub typhus, likely resulting from endothelial inflammation and microvascular thrombosis. Its occurrence in the absence of an eschar highlights the need for vigilance in endemic regions. Early antimicrobial therapy and prompt recognition of vascular involvement may prevent progression and improve outcomes.

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Abstract 040 ASPICON 2026 | October 08 - 11 | 2026

Lytic Potential of Bacteriophages Against Multidrug-Resistant Klebsiella Pneumoniae: a Phage-Based Strategy to Combat Antibiotic Resistance

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BACKGROUND

Multidrug resistance, particularly in Klebsiella pneumoniae, severely challenges effective antimicrobial treatments, driving the need for alternative, targeted antibacterial strategies. Bacteriophages, owing to their specific lytic activity, represent a promising therapeutic approach against antibiotic-resistant pathogens. This study aimed to isolate and characterise lytic bacteriophages targeting MDR K. pneumoniae to assess their antibacterial potential.

MATERIAL & METHODOLOGY

K. pneumoniae ATCC 43816 was evaluated forantimicrobial susceptibility by Kirby–Bauer disc diffusion, followed by its phenotypic ESBL confirmation and MAR index calculation. Bacteriophages specific to K. pneumoniae ATCC 43816 were isolated from environmental water samples, purified and characterized for plaque morphology, host range, adsorption kinetics, one- step growth and pH/temperature stability. Phag morphology was assessed by TEM, protein profiles by SDS-PAGE, and bacterial lysis by SEM.

RESULT

K. pneumoniae ATCC 43816 exhibited resistance to 11/15 antibiotics (MAR index: 0.733) and was phenotypically confirmed as ESBL-positive. Of 15 environmental water samples, 10 demonstrated phage activity, yielding seven morphologically distinct lytic phages (KpnΦI–VII) with titres ranging from 3.1 × 1010 to 4.8 × 1013 PFU/mL. All seven phages demonstrated lytic activity against multiple Klebsiella strains, with additional activity against E. coli MTCC 1687. Most phages showed substantial adsorption within 15–20 min, with latent period ranged from 12–26 min and burst sizes of 50–175 PFU/infected cell, confirming productive replication. Six phages exhibited potent lytic activity at an MOI of 1, whereas KpnΦV showed comparable activity at MOIs of 1 and 10. KpnΦII, III, IV, V and VII exhibited broader pH and temperature stability. TEM revealed a short, stubby tail and relatively large capsid, consistent with Podoviridae, while SDS-PAGE profiles supported structural characteristics. SEM demonstrated bacterial cell damage and lysis following phage exposure.

CONCLUSIONS

The isolated bacteriophages demonstrated substantial lytic potential against ESBL producing MDR K. pneumoniae and could serve as alternatives or adjuncts to conventional antibiotics for combating AMR. Genomic analysis will further inform their safety and therapeutic suitability.

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Abstract 041 ASPICON 2026 | October 08 - 11 | 2026

Efficacy of Doxycycline as an Add-on Therapy in Drug-sensitive Cavitary Pulmonary Tuberculosis Patients: A Randomized Placebo-controlled Trial

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BACKGROUND

Host-mediated extracellular matrix degradation driven by matrix metalloproteinases (MMPs) is a key contributor to cavitation in pulmonary tuberculosis. Doxycycline inhibits MMP production and has shown benefit in preclinical and clinical studies. This study evaluated doxycycline as a host-directed adjunct therapy in pulmonary tuberculosis.

MATERIAL & METHODOLOGY

In this trial, 62 drug-sensitive pulmonary tuberculosis participants were randomised to receive standard antitubercular therapy with either doxycycline or a placebo. The primary outcome was to assess changes in circulating MMP-1, with secondary assessments of Quality of Life (QoL), and radiological parameters on Computed Tomography (CT) of the thorax, using an intention-totreat analysis. Changes in outcomes over time between the treatment groups were analysed using linear mixed-effects models.

RESULTS

The mean age was 47.2±13.6 years in the doxycycline group and 46.4±14.1 years in the placebo group, with male predominance in both groups (83.3% and 73.3%, respectively). There was no significant between- group difference in the change in MMP-1 levels from baseline to four weeks (β=3.03, 95% CI -1.10 to 7.17; p=0.150). Total SGRQ-QoL scores decreased significantly over time in both groups, with no significant between-group difference (β=2.69, 95% CI-6.81 to 12.18; p=0.579). Cavity wall thickness decreased over time, with a significant reduction in the doxycycline group (β=0.2, 95% CI 0.05 to 0.4; p=0.011), although the group × time interaction did not reach statistical significance (β=-0.20, 95% CI - 0.42 to 0.02; p=0.072). There was no significant between-group difference in the change in cavity volume over time (β=16.55, 95% CI -94.76 to 127.87; p=0.771).

CONCLUSIONS

These findings suggest that short-term doxycycline use does not confer additional benefit in MMP or QoL in cavitary pulmonary tuberculosis, although radiological features warrant further exploration.

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Abstract 042 ASPICON 2026 | October 08 - 11 | 2026

Susceptibility of Carbapenem Resistant Klebsiella Pneumoniae to Ceftazidime-Avibactam, Aztreonam, Ceftazidime-Avibactam Plus Aztreonam and Colistin: A Seven-Month Retrospective Study

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BACKGROUND

Carbapenem-resistant Klebsiella pneumoniae (CRKP) is an important healthcare-associated pathogen with limited therapeutic options. It is also recognized as an important causative agent of hospital-acquired infections. Newer β-lactam/β-lactamase inhibitor–based regimens and colistin remain important options for managing infections caused by these resistant isolates. Knowledge of local susceptibility patterns is essential for preparing antibiogram thereby guiding appropriate antimicrobial therapy.

Objective: To determine the susceptibility of carbapenem-resistant Klebsiella pneumoniae to Ceftazidime-Avibactam, Aztreonam, Ceftazidime-Avibactam plus Aztreonam, and Colistin, and describe their specimen-wise and demographic distribution.

MATERIAL & METHODOLOGY

A retrospective observational study was conducted over seven months (January–July 2026) in a tertiary care hospital. Carbapenem-resistant Klebsiella pneumoniae isolated from blood, urine, pus, sputum, BAL, and sterile body fluids were included. Identification and antimicrobial susceptibility testing were performed using the VITEK 2 Compact system. Ceftazidime-avibactam plus aztreonam susceptibility was assessed by the Kirby–Bauer disc diffusion method, while colistin susceptibility was determined using VITEK 2. Results were interpreted according to CLSI M100 36th Edn guidelines 2026.

RESULTS

During the seven-months study period, a total of 10556 clinical specimens were received. Of these, 121 (1.1%) were carbapenem-resistant Klebsiella pneumoniae. Among the CRKP isolates, 80 (66.11) were from males and 41 (33.9%) from females; 102(84.3%) were from adults and 19 (15.7%) from paediatric patients. The isolates were obtained from urine 20(16.5%), blood 19(15.7%), pus 39 (32.2%), sputum 41 (33.9%), and sterile body fluids 2 (1.65%). Overall Susceptibility to ceftazidime-avibactam, Aztreonam, ceftazidime-avibactam plus aztreonam (synergy test), and colistin was observed in 8/121 (6.6%), 12/121 (9.9%), 90/101 (89.1%), and 116/121 (95.9%) (Intermediate sensitivity) isolates, respectively. All colistin resistant 5 isolates are sensitive to Synergy.

CONCLUSIONS

Ceftazidime-avibactam plus aztreonam demonstrated markedly higher susceptibility (89.1%) among CRKP isolates compared with individual agents, highlighting the potential value of this combination against highly resistant Klebsiella pneumoniae.

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Abstract 043 ASPICON 2026 | October 08 - 11 | 2026

Faster Bugs, Faster Drugs: Direct Identification and AST from Positive Blood Cultures

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BACKGROUND

When the clock is ticking, every diagnostic hour matters. Conventional blood culture workflows require subculture before identification and antibiotic susceptibility testing (AST), delaying reporting to 48–72 hours. Direct inoculation of VITEK 2 Compact from flaggedpositive blood culture bottles may bypass this intermediate step, providing earlier actionable results and facilitating timely targeted therapy.

MATERIAL & METHODOLOGY

A prospective, diagnostic, randomised study was conducted at the Department of Microbiology, AIIMS Jodhpur. Adults with blood cultures showing monomorphic Gramnegative bacilli on Gram staining were included. Identification and AST were performed by direct testing from positive blood culture broth and standard testing following subculture. Turnaround time (TAT), antimicrobial therapy modification and 30-day mortality were compared.

RESULTS

Of 70 blood culture samples, direct testing (DST) was performed in 34 (48.6%) and standard testing (SST) alone in 36 (51.4%). DST reduced TAT by a mean of 28.5 hours (median 24, range 0–61), saving 969 hours. Identification concordance between direct and standard methods was 76.5% (26/34), with discordance mainly due to failed identification, contaminant flagging, and equivocal VITEK identification on direct testing. AST showed 95.7% categorical agreement (314/328 combinations), with 100% agreement for cefuroxime, ceftriaxone, ertapenem, tigecycline, and colistin, and lowest agreement for ciprofloxacin (87.5%). At 30 days, outcomes were comparable: discharge 76.5% (DST26/34) vs 77.8% (SST-28/36); mortality 17.6% (6/34) vs 16.7% (6/36).

CONCLUSION

Direct AST/ID testing using VITEK 2 Compactsignificantly shortened TAT (\~24–28 hours) while maintaining high AST accuracy (95.7%) and acceptable identification concordance (76.5%). Despite no significant difference in 30-day outcomes, its speed supports earlier targeted therapy and its use as an adjunct to standard testing, with confirmatory testing for ambiguous or fastidious organisms.

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Abstract 044 ASPICON 2026 | October 08 - 11 | 2026

Impact of Prospective Audit and Feedback on Antimicrobial Optimization: A Prospective Antimicrobial Stewardship Program Experience

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BACKGROUND

Inappropriate antimicrobial use contributes to antimicrobial resistance, adverse drug events, and increased healthcare costs. Prospective Audit and Feedback (PAF) is a core Antimicrobial Stewardship Program (ASP) strategy for optimizing antimicrobial therapy. This study evaluated the impact of structured PAF on antimicrobial prescribing, justification, de-escalation, escalation, and culture-based appropriateness.

MATERIAL & METHODOLOGY

A prospective observational-interventional study was conducted from January to July 2026 as part of the institutional ASP. Restricted/others antimicrobial prescriptions were reviewed for indication, authorization, dose, duration, microbiological results, and appropriateness by Lead antimicrobial Pharmacist. Patients receiving three or more antimicrobials for more than three days were specifically audited for optimization opportunities. Positive culture reports were prospectively reviewed by the AMS team to identify opportunities for deescalation or escalation. Recommendations were communicated to treating teams, and subsequent actions were documented.

RESULTS

Between January and July 2026, 2270 patients were reviewed for antimicrobials prescriptions, out of which 947 restricted antimicrobial prescriptions were reviewed. Monthly compliance with restricted-antimicrobial justification/AMS authorization ranged from 87% to 95%, with a mean of 92.3%. Among 2,270 patients evaluated for multipleantimicrobial therapy, 156 (6.9%) received three or more antimicrobials for more than three days. Of these, 84 (53.8%) had documented justification and 72 required corrective intervention. In 39 cases out of 72 correction were done after feedback. During the study period, 1,047 positive culture reports were reviewed, identifying 241 deescalation opportunities. De-escalation was achieved in 128 (53.1%) cases, including 93 (38.6%) following AMS team feedback and 35(15%) done by primary team. Successful de-escalation increased from 55% in January to 74% in July. There were 290 opportunities for antimicrobial escalation, with escalation performed in 100% of cases. Culture-based appropriate antimicrobial therapy ranged from 76% to 95%, reaching 95% in July 2026.Prescription appropriate compliance was also improved.

CONCLUSIONS

Structured PAF improved antimicrobial optimization through enhanced deescalation, escalation, prescription appropriateness, and culture-directed therapy. Integrating pharmacist-led audit, microbiological review, and timely feedback can ASP implementation and promote rational antimicrobial use.

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Abstract 045 ASPICON 2026 | October 08 - 11 | 2026

Ludwig's Angina: A Rare Infectious Disease with Undiagnosed Diabetes Mellitus Managed by Timely Surgical and Medical Intervention—A Case Report

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BACKGROUND

Ludwig's angina is a rare, rapidly progressive, lifethreatening bilateral cellulitis of the floor of mouth involving the submandibular, sublingual, and submental spaces, first described in 1836. Though infectious, it is non-contagious, as the infection spreads from its oral microflora into surrounding tissue rather than the bloodstream, causing tongue edema. Its significance lies in silent airway obstruction, with mortality declining from 50% to 8%. It accounts for 4-8% of deep neck infections, mainly aged 20-60 years, with 70-90% arising from dental infection. Management focuses on source drainage and airway protection rather than isolation, with diabetes and immunosuppression key risk factors

CASE SUMMARY

A 43-year-old male presented with midline neck swelling and difficulty swallowing, worsening over three days, with bilateral ear pain and odynophagia, four days after dental extraction and root canal treatment, with fever, hoarseness, and reduced oral intake, and poorly controlled diabetes mellitus (HbA1c 13%) with leukocytosis. Oral examination revealed firm, mildly tender, bilateral submandibular and submental swelling with restricted mouth opening of two fingerbreadths. Provisional diagnosis of Ludwig's angina was made; patient was admitted for surgical management.

KEY FINDINGS

Contrast-enhanced CT neck showed a collection in the floor of mouth, submental, and sublingual spaces, measuring 38 × 46 × 35 mm, involving the bilateral mylohyoid, hyoglossus, and genioglossus muscles, with epiglottic edema and effacement of oropharyngeal lumen, consistent with Ludwig's angina with reactive cervical lymphadenopathy. Pus culture was sterile anaerobically, and histopathology revealed acute inflammation with no malignancy. Treatment involved intravenous amoxicillinclavulanic acid and metronidazole, blood glucose management with insulin, and incision and drainage under general anesthesia.

CONCLUSIONS

This case illustrates how a dental infection can escalate into a fatal deep neck infection when associated with unrecognized diabetes mellitus. Early imaging, airway-protective anesthesia, drainage, appropriate antibiotics, and glycemic control were instrumental for recovery, underscoring Ludwig's angina as a possible sign of undiagnosed diabetes.

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Abstract 046 ASPICON 2026 | October 08 - 11 | 2026

Failure of Therapy or Failure of Strategy? 'REACT'ing to Inadequate Treatment Response in Presumed Tubercular (TB) Spondylodiscitis

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BACKGROUND

In TB endemic settings, spondylodiscitis is frequently presumed to be tubercular and treated empirically. Subsequent poor response is often interpreted as drug-resistant tuberculosis, prompting prolonged or intensified therapy without systematic reassessment. Empirical escalation risks diagnostic delay, unnecessary toxicity and inappropriate use of reserve drugs. We aimed to highlight key stewardship principles via structured framework through real-world cases of presumed TB spondylodiscitis with poor treatment response.

MATERIAL & METHODOLOGY

We conducted a retrospective review of TB cases and selected six patients with presumed or microbiologically confirmed spinal tuberculosis who demonstrated inadequate clinical, biochemical or radiological response to therapy. Each case was analyzed to identify specific domains of the REACT framework i.e; : Reassess the diagnosis, Evaluate drug susceptibility, Assess the regimen, Check drug concentrations, and Type the treatment response.

RESULTS

The six cases represented five distinct mechanisms of apparent treatment failure.

Patient 1: Reassessment for the diagnosis revealed metastatic lung malignancy.

Patient 2: Absence of baseline comprehensive DST led to inappropriate escalation to multidrug-resistant TB therapy and avoidable drug toxicity.

Patient 3: Reliance on rifampicin-focused molecular testing failed to detect isoniazid monoresistance.

Patient 4: Suboptimal drug combinations contributed to inadequate response requiring rational regimen reconstruction.

Patient 5: TDM demonstrated subtherapeutic antiTB drug exposure despite an apparently appropriate regimen, prompting dose optimisation.

Patient 6: Demonstrated paradoxical clinical worsening consistent with immune reconstitution inflammatory syndrome (IRIS), requiring management with anti-inflammatory agents. Across cases, the application of the REACT framework led to appropriate clinical redirection, avoidance of unnecessary toxicity, and improved outcomes.

CONCLUSIONS

Apparent failure of TB treatment is a heterogeneous stewardship syndrome and should prompt structured reassessment rather than empiric escalation. The REACT framework provides a practical approach for moving beyond empiricism toward individualized, evidence-based care that can significantly improve outcomes and prevent inappropriate antimicrobial use.

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Abstract 047 ASPICON 2026 | October 08 - 11 | 2026

Beyond the Hospital Bed: Real-World Clinical Outcomes and Economic Impact of a Structured OPAT Programme at a Tertiary Hospital

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BACKGROUND

Prolonged parenteral antimicrobial therapy often necessitates continued hospitalization despite clinical stability, consuming hospital resources and increasing patient burden. Outpatient parenteral antimicrobial therapy (OPAT) offers an alternative, but safe transition requires structured clinical assessment, logistical feasibility, caregiver support, monitoring and, importantly, shared decisionmaking. We evaluated the clinical profile and outcomes of an ongoing OPAT programme and explored its emerging economic impact.

MATERIAL & METHODOLOGY

We analyzed 159 patients receiving OPAT during 2024–2026 at a tertiary-care centre. Demographics, infectious indications, antimicrobial regimen, duration, administration setting, eligibility parameters and outcomes were recorded using a structured checklist assessing clinical stability, need for inpatient intervention, safe parenteral administration, caregiver capability, drug storage, follow-up, telemonitoring, infection-control practices, antimicrobial stewardship and patient preference. A nested economic analysis of 25 patients with currently available cost data was performed. Additionally, four patients who were clinically and logistically feasible for OPAT but did not proceed because the patient/family preferred continued hospital-based treatment were included as a realworld comparator for economic assessment.

RESULTS

The 159-patient cohort represented diverse infections including complicated UTI/pyelonephritis, pneumonia, enteric fever, liver/renal abscesses, meningitis/meningoencephalitis, infective endocarditis, CRBSI and infected wounds. OPAT was delivered at home or nursing homes by trained family members or local nurses. Treatment completion was documented in 140/159 (88.1%) patients; 14 (8.8%) were lost to follow-up, with a small number experiencing readmission or mortality. Among 25 patients with available cost data, 147 OPAT-days were recorded, with mean duration 5.88 days and mean modelled cost ₹4,650/patient. The four OPATfeasible but patient-declined cases had mean inpatient duration 6.2 days and mean modelled cost ₹9,670/patient, demonstrating a substantial preliminary economic difference favouring OPAT.

CONCLUSIONS

Structured OPAT enabled continuation of parenteral antimicrobial therapy outside hospital with favourable real-world outcomes. Preliminary economic findings suggest considerable potential resource savings, while the four comparator patients highlight that patient preference remains a decisive component of OPAT eligibility. Ongoing cost accrual will provide a more robust assessment of OPAT's economic impact.

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Abstract 048 ASPICON 2026 | October 08 - 11 | 2026

Antibiotic Susceptibility Pattern and Bacteriologica Profiling of Uropathogens Causing Urinary Tract Infection in a Tertiary Care Hospital of Northwestern India: A Cross-Sectional Study

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BACKGROUND

UTIs are among the most common bacterial infections encountered in clinical practice, with their causative agents and antimicrobial susceptibility patterns varying regionally and over time.

MATERIAL & METHODOLOGY

This is an ongoing observational, cross-sectional study being conducted at GMC, Patiala. Randomized data of urine culture and antimicrobial sensitivity reports are being taken from the Department of Microbiology. The observations are recorded and have been subjected to statistical analysis.

RESULTS

Out of 100 positive urine samples, the most common isolate was Escherichia coli (61%), followed by Klebsiella species (26%), Enterococcus species (5%), MRSA (4%), Pseudomonas species (2%), Proteus vulgaris (1%), and Citrobacter freundii (1%). Among Gram-negative organisms, Polymyxin B (98.9%) and Colistin (90.1%) showed highest sensitivity, followed by carbapenems and Netilmicin (~70–79%). Moderate (~67–69%) sensitivity was seen with Nitrofurantoin, Gentamicin, and PiperacillinTazobactam, while fluoroquinolones, cephalosporins, and Ampicillin showed high resistance. Among Gram-positive organisms, Linezolid (100%) was most effective, followed by Nitrofurantoin (77.8%) and high-level gentamicin (66.7%). Sensitivity (~55%) was seen with Vancomycin and others. Complete resistance was observed to Ceftazidime and Clindamycin.

CONCLUSIONS

Escherichia coli was the predominant uropathogen. Gram-negative isolates showed high sensitivity to reserve drugs such as Polymyxin B and Colistin, while commonly used antibiotics like fluoroquinolones and cephalosporins exhibited significant resistance. Among Gram-positive organisms, Linezolid was the most effective agent, whereas complete resistance was noted for Ceftazidime and Clindamycin.

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Abstract 049 ASPICON 2026 | October 08 - 11 | 2026

Comparative Trends in Bloodstream Infections in ICUs and Wards: Perspective on Microbial Spectrum and Antimicrobial Resistance

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BACKGROUND

Bloodstream infections (BSIs) are a major cause of morbidity and mortality among hospitalized patients, particularly in intensive care units (ICUs). Knowledge of the microbial spectrum and antimicrobial susceptibility patterns is essential for guiding empirical therapy and antimicrobial stewardship. This study aimed to compare the microbial profile and antimicrobial susceptibility patterns of bloodstream infections among ICU and ward patients in a tertiary care teaching hospital.

MATERIAL & METHODOLOGY

A retrospective observational study was conducted in the Department of Microbiology at SHKM GMC, Nuh, Haryana. Blood culture records from January to December 2025 were reviewed. Patient location (ICU or ward), blood culture positivity,microbial isolates, and antimicrobial susceptibility profiles were analyzed. Antimicrobial susceptibility testing was performed by the Kirby–Bauer disk diffusion method and interpreted according to Clinical and Laboratory Standards Institute Results (CLSI) guidelines.

RESULTS

A total of 1,465 blood cultures were processed, including 1,077 ICU and 388 ward samples. Significant microbial growth was observed in 404 (27.6%) cultures, with a higher positivity rate in ICUs (33.0%) than wards (12.6%). Staphylococcus aureus was the predominant isolate (234/404; 57.9%), followed by Klebsiella spp. (9.2%) and Enterococcus spp. (8.7%). Among S. aureus isolates, 61.1% were methicillin-resistant (MRSA). Linezolid and vancomycin demonstrated 100% susceptibility against Gram-positive isolates. Among Enterobacterales, amikacin and piperacillintazobactam showed the highest susceptibility, whereas lower susceptibility was observed with ceftriaxone, cefepime, and ciprofloxacin. Nonfermenting Gram-negative bacilli also demonstrated comparatively better susceptibility to piperacillin–tazobactam than to cephalosporins.

CONCLUSIONS

Bloodstream infections were substantially more frequent among ICU patients than ward patients. Staphylococcus aureus, particularly MRSA, was the predominant pathogen. The observed antimicrobial susceptibility profile highlights the importance of continuous microbiological surveillance, antimicrobial stewardship, and evidence-based empirical antibiotic policies to improve patient outcomes and limit the emergence of antimicrobial resistance.

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Abstract 50 ASPICON 2026 | October 08 - 11 | 2026

Beyond the Antibiogram: Hospital Wastewater Recapitulates Dominant Resistance Classes

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BACKGROUND

Clinical antibiograms guide empirical therapy and stewardship but capture only sampled patients whose organisms grow. Wastewater integrates determinants shed by an entire hospital population, potentially revealing threats beyond routine cultures. Within India's ICMR-VRDL One Health pilot, we examined whether hospital wastewater antimicrobial resistance (AMR) signatures concorded with the clinical antibiogram.

MATERIAL & METHODOLOGY

At AIIMS Raebareli, influent wastewater was sampled fortnightly from December 2025 to May 2026, concentrated by polyethylene-glycol precipitation and analysed using a standardised indigenous 21-target real-time PCR panel for carbapenemase, extendedspectrum beta-lactamase (ESBL), mobile colistinresistance (mcr), van and mecA determinants plus Mycobacterium tuberculosis. Parallely, shotgun metagenomic sequencing was performed on wastewater samples collected in December 2025 and May 2026 to profile the resistome. Specimen-stratified 2025 antibiograms generated in WHONET under CLSI M100/M39 from >1,200 non-duplicate isolates provided the clinical profile.

RESULTS

The clinical antibiogram indicated that Enterobacterales susceptibility to third-generation cephalosporins was 927%; bloodstream susceptibility was 42% to meropenem and 28% to imipenem. Methicillin-resistant Staphylococcus aureus constituted 40-66% of S. aureus, while bloodstream enterococcal vancomycin susceptibility was 38%. Wastewater detected NDM, VIM, IMP, KPC and OXA; CTX-M, SHV and CMY; mecA; and van determinants, broadly concordant with these dominant phenotypes at class level in the antibiogram. Two findings extended beyond it: multiple mcr variants were detected whereas phenotypic colistin resistance among bloodstream Enterobacterales was 30%, suggesting a broader mobile reservoir; and M. tuberculosis was detected, outside routine antibiogram scope.

CONCLUSIONS

This is the first comparison of wastewater resistance determinants with a hospital's clinical antibiogram within the VRDL wastewater surveillance programme. Wastewater surveillance reproduced the dominant resistance architecture while uncovering signals not represented in routine clinical surveillance. Read alongside the antibiogram, this One Health layer could prompt focused confirmation and strengthen stewardship of carbapenems and polymyxins. These findings provide proof-of-concept for period-matched, multicentre evaluation across the Indian VRDL network.

KEYWORDS

Antimicrobial resistance; Hospital wastewater; Antibiogram; Antimicrobial stewardship; One Health; MCR genes; Metagenomics

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Abstract 51 ASPICON 2026 | October 08 - 11 | 2026

Optimizing Antimicrobial Utilization in Geriatric Inpatients: A Baseline Stewardship Audit Identifying AWaRe Utilization and Predictors of Prescribing Errors

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BACKGROUND

Due to multimorbidity, polypharmacy, age-related pharmacokinetic alterations, and deteriorating renal function, older adults are vulnerable to antimicrobialrelated adverse effects. Despite increasing antimicrobial resistance (AMR), data on antimicrobial stewardship in Indian geriatric populations remain limited. This study determined antimicrobial utilization and factors associated with prescribing errors among hospitalized elderly patients.

MATERIAL & METHODOLOGY

A prospective antimicrobial stewardship audit was conducted among 100 geriatric inpatients at a tertiarycare teaching hospital in Northern India. A total of 190 antimicrobial prescriptions were reviewed using the WHO AWaRe framework. Prescriptions were assessed for appropriateness, renal dose adjustment, drug interactions, indication-related issues, monitoring issues, and polypharmacy. Predictors of prescribing errors were analyzed using non-parametric statistical tests.

RESULTS

Access, Watch, and Reserve antibiotics were used in 49.0%, 49.0%, and 1.6% of 190 antimicrobial prescriptions, respectively. The most frequently prescribed agents were piperacillin–tazobactam (22.6%), azithromycin (11.1%), and meropenem (9.5%). 30 prescribing issues were identified, with monitoring-related problems (40.0%) and renal dosing errors (26.7%) being the most common. Prescription errors were significantly associated with renal impairment, occurring more frequently in patients with severe renal dysfunction than in those with normal renal function (61.5% & 20.0%; p=0.011). Error rates also increased with antimicrobial burden and overall polypharmacy (ρ=0.279, p=0.005). Although Reserve antibiotic use remained low (1.6%), Watch-category utilization exceeded the WHO target of ≤40%.

CONCLUSIONS

This stewardship audit revealed an over-reliance on Watch-category antibiotics and demonstrated that renal impairment and antimicrobial polypharmacy are major contributors to prescribing errors in elderly inpatients. Targeted stewardship measures, including renal doseadjustment protocols, therapeutic drug monitoring, clinical decision-support systems, and prospective audit-feedback, may improve prescribing quality and promote rational antibiotic use in geriatric care.

KEYWARDS

Antimicrobial Stewardship; WHO AWaRe; Clinical Pharmacology; Antimicrobial Resistance; Renal Dose Adjustment; Polypharmacy.

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Abstract 52 ASPICON 2026 | October 08 - 11 | 2026

Isolated Pulmonary Mucormycosis Complicating Carbimazole Induced Agranulocytosis: The Indispensable Role of High-Resolution Melting Analysis Based Molecular Diagnostics in an Atypical Host

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BACKGROUND

Pulmonary mucormycosis is a rare and life-threatening invasive fungal infection affecting immunocompromised hosts. Classical risk factors include uncontrolled diabetes and haematological malignancies, drug-induced agranulocytosis as a predisposing condition remains underrecognized. Carbimazole is a well-documented though infrequent cause of agranulocytosis. The co occurrence of carbimazole-induced agranulocytosis with pulmonary mucormycosis poses diagnostic and therapeutic challenges, particularly in resource-limited settings.

CASE SUMMARY

A 48-year-old woman with Graves' disease, on carbimazole 20 19 mg/day for four years presented with fever, oral ulcers, vomiting, and loose stools. Evaluation revealed febrile neutropenia with pancytopenia (haemoglobin 6.3 g/dl, total leukocyte counts 1990/µL with absolute neutrophil count 740/µL, and platelet count of 89000/µL), with no atypical cells in peripheral smear. On examination, auscultation revealed fine crepitations over the left inferior axillary region, with no splenomegaly. Bone marrow evaluation was cellular and active. Chest Xray and CT thorax demonstrated bilateral pulmonary nodules. Initial antifungal therapy with conventional Amphotericin B was commenced empirically alongside Meropenem. Bronchoscopy with bronchoalveolar lavage confirmed pulmonary mucormycosis via pan-fungal DNA positivity for Rhizopus and Mucorales species on High-Resolution Melting Analysis (HRMA). Carbimazole was discontinued; antithyroid therapy was switched to propylthiouracil and cytopenia improved. After 14 days of therapy with Amphotericin B, the patient was transitioned to oral Posaconazole. Complications including hypokalaemia, hypomagnesemia, oral candidiasis, and thyrotoxic cardiomyopathy were managed.

KEY FINDINGS

Drug-induced agranulocytosis can serve as a gateway to life threatening opportunistic fungal infections. In this case, definitive microbiological diagnosis required bronchoscopy with HRMA-based molecular pan-fungal PCR, as conventional methods (KOH mount, culture) were non-contributory - underscoring the limitations of traditional diagnostics in immunocompromised hosts.

CONCLUSIONS

This case highlights mucormycosis as a serious complication in patients with antithyroid drug-induced immunosuppression emphasizing the need for a high degree of clinical suspicion, early bronchoscopy evaluation with HRMA-based molecular diagnostics, and prompt antifungal therapy to improve outcomes in such patients.

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Abstract 53 ASPICON 2026 | October 08 - 11 | 2026

Trends in Antimicrobial Drug-induced Adverse Drug Reactions: A Case Report-based Analysis of Clinical Presentation, Severity, Preventability, Seriousness, and Outcomes Over the Last Decade

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BACKGROUND

Antimicrobials have reduced global infectious disease deaths and effectively treat many infections. However, overuse and misuse can cause adverse drug reactions and drive antimicrobial resistance.

MATERIAL & METHODOLOGY

This observational study at Kalpana Chawla Government Medical College systematically reviewed case reports on antimicrobial drug-induced adverse drug reactions (ADRs) published from 2016 to 2026. We conducted a Medline/PubMed search that yielded 18,340 reports. After applying strict inclusion and exclusion criteria and removing duplicates, we selected 288 reports for analysis. Multiple reviewers independently screened, extracted, and verified data, resolving disagreements by consensus. Data were compiled and analysed in Excel.

RESULTS

This analysis of 288 antimicrobial drug-induced adverse drug reaction case reports from PubMed/Medline in the past decade found that patients averaged 48.2 years old, with an almost equal gender distribution. Most cases occurred in China, the USA and India. 35% of cases were graded as severe, 55% as moderate, and only 5% as mild. Vancomycin was the most commonly used antimicrobial, followed by ciprofloxacin and tuberculosis treatments. Urinary tract infections treated with nitrofurantoin, TMP-SMX, and amoxicillinclavulanate were also frequently reported. Nearly half of the drugs were given orally, with 32% administered intravenously. In 35% of cases, discontinuing the drug resulted in recovery, often supported by additional care. Nonetheless, 2.4% of cases ended in death despite treatment.

CONCLUSIONS

Vancomycin and fluoroquinolones were responsible for the most severe antimicrobial ADRs. Most reactions appeared to be idiosyncratic and probably only partially preventable. A small proportion was due to antimicrobial resistance-related escalation. Theseresults emphasize the importance of close monitoring, although data gaps restrict broader conclusions.

KEYWORDS

Antimicrobials, Adverse drug reaction, Causality, Severity, Preventability, Outcome.

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Abstract 54 ASPICON 2026 | October 08 - 11 | 2026

Hidden in the Nares: Nasal Carriage of MRSA Among Healthcare Workers in High-Risk Areas

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BACKGROUND

Healthcare workers (HCWs) colonized with methicillin-resistant Staphylococcus aureus (MRSA) can act as potential reservoirs for transmission to patients. The pathogen is notorious for its nosocomial transmission and hospital outbreaks. Detection of nasal carriage provides valuable local evidence to guide and strengthen infection prevention and control practices.

MATERIALS AND METHODOLOGY

A hospital-based cross-sectional study was conducted among 60 HCWs working in high-risk areas at Dr. B.R. Ambedkar State Institute of Medical Sciences. Nasal swabs were collected from both anterior nares using sterile swabs moistened with sterile saline. Samples were inoculated onto mannitol salt agar and incubated at 37°C for 18–24 hours. Staphylococcus aureus was identified by standard microbiological methods, and methicillin resistance was determined using cefoxitin disc diffusion according to CLSI guidelines. HCWs identified as MRSA carriers were treated with mupirocin 2% nasal ointment. Repeat nasal sampling was performed five days after completion of treatment to assess decolonization.

RESULTS

Overall, the study demonstrated an MRSA nasal carriage rate of 16.7% among the 60 screened healthcare workers. MRSA nasal carriage was detected in the OT and ICU settings with 5 (50%) positive isolates recovered from each area, while no MRSA nasal carriage was observed among healthcare workers from the NICU. Based on healthcare-worker category, MRSA carriage was identified in 3 doctors (30%), 3 nurses (30%), and 4 other healthcare workers (40%). All identified MRSA nasal carriers received decolonization therapy with mupirocin 2% nasal ointment. Follow-up nasal swabs were collected five days after completion of treatment to assess the effectiveness of decolonization.

CONCLUSIONS

Nasal surveillance among HCWs can help identify potential MRSA reservoirs in high-risk areas. Targeted decolonization with mupirocin 2% ointment, followed by repeat screening, was effective in eliminating detectable MRSA carriage in this study. Regular surveillance combined with appropriate IPC measures may help reduce the risk of MRSA transmission in healthcare settings.

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Abstract 55 ASPICON 2026 | October 08 - 11 | 2026

Interplay between carbapenem resistance genes and sulbactam-durlobactam susceptibility in Acinetobacter baumannii isolated from respiratory samples

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BACKGROUND

Carbapenem resistant *Acinetobacter baumannii* (CRAB) is a WHO designated 'critical priority' pathogen. It poses high threat to public health. Sulbactam/durlobactam, a novel β-lactam/β-lactamase inhibitor combination, is a preferred therapeutic option in global guidelines. In this study, we evaluated the interplay between carbapenem resistance genes and sulbactam-durlobactam susceptibility in *Acinetobacter baumannii.*

MATERIALS AND METHODS

A prospective laboratory-based surveillance was conducted in Microbiology lab at a level-1 trauma care hospital, in India. Respiratory samples were collected from patients with ventilator-associated pneumonia (VAP). 45 non-duplicate CRAB clinical isolates were included in this study. Antimicrobial susceptibility testing (AST) of sulbactam/durlobactam was done by disk diffusion method. CLSI-M-100-35th edition guidelines were used for interpretation. *Acinetobacter baumannii* SAMN04901667(AR-Bank) was included as a quality control strain. DNA was extracted manually from overnight cultures using acommercial kit. PCR followed by agarose gel electrophoresis was performed to detect presence of antimicrobial resistance genes.

RESULTS

Of the 45 isolates, 29(65%) were found to be susceptible to sulbactam/durlobactam. IMP and KPC genes were absent in all isolates. NDM was present in 27/45(60%) and VIM was present in 23/45(53%) isolates. Among 29 susceptible isolates: NDM positive: 14(48%). VIM positive: 7(24%), also NDM positive. Among 16 resistant isolates: NDM positive: 13(81%). VIM positive: 9(56%), also NDM positive.

CONCLUSIONS

Resistance was noted in 35% of isolates, substantially higher than resistance rates reported in global surveillance. In India, carbapenem resistance is driven not only by OXA-type carbapenemases but also by endemic metallo-β-lactamases (MBLs) which is not inhibited by durlobactam. In our study, two-third of the isolates were NDM positive and among sulbactam/durlobactam resistant isolates, 81% were NDM positive. Therefore, regional evaluation of sulbactam/durlobactam is crucial before incorporation into local treatment algorithms. If an isolate is NDM positive, use of sulbactam/durlobactam can be halted and it can also help in antimicrobial stewardship practices (AMSP).

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Abstract 56 ASPICON 2026 | October 08 - 11 | 2026

Leveraging Gamification for Enhancing Hand Hygiene Compliance in an Intensive Care Unit: A Quality Improvement Initiative

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BACKGROUND

Traditional educational approaches to enhance compliance with infection prevention and control protocols are resource-intensive and unsustainable. Gamification promotes behavioral change through psychological drivers. This innovative approach aimed to engage healthcare workers in improving hand hygiene adherence while reinforcing and revising their knowledge of hand hygiene practices in an emergency setup like ICU.

MATERIALS AND METHODS

A 3-month game-based intervention was conducted in the Critical Care Unit (CCU), preceded by a 3-month Pre-intervention period. Intervention included a 1 to 75point gameboard based on knowledge about Hand Hygiene and involved Residents, Nursing Officers, Hospital Attendants, and Housekeeping staff. Individual play included a 10-item single-best-answer quiz, rapidfire, demonstrations, and case scenarios with bonus as well as negative marking. Pre- and post-intervention Likert-scale surveys assessed knowledge, attitude, practice, and barriers. Top performers were rewarded weekly/monthly. Total, Complete, and Partial Hand hygiene adherence rates (HHTAR, HHCAR, HHPAR) and hospital-acquired infection trends were compared between periods.

RESULTS

HHTAR and HHCAR increased significantly from 64.79% to 87.66% ($Z=-8.0578$, $p<0.0001$) and 23.79% to 60.00% ($Z=-11.375$, $p<0.0001$), respectively. HHTAR increased for WHO moments 1, 2, and 4, while it initially increased for Moment 5 but declined later. CLABSI rate decreased [18.46 to 13.46/1,000 centralline days], V AE rate decreased [5.96 to 5.37/1,000 ventilator days], while CAUTI remained zero. Attitude, practice, and barrier scores improved significantly ($p<0.05$). Mean knowledge score increased from 4.55±1.19 to 5.77±0.46($p<0.0001$).

CONCLUSIONS

Gamification achieved high participation and engagement with significantly improved hand hygiene adherence rates. It enhanced self-efficacy and knowledge retention and thus offers a promising alternative to traditional education, although innovations to sustain the effect need further exploration.

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Abstract 57 ASPICON 2026 | October 08 - 11 | 2026

Fever Burden, Care-Seeking Pathways, and Irrational Antimicrobial Use in a Rural Community of Northern India: Baseline Findings from a Longitudinal Household Survey

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BACKGROUND

Acute febrile illness (AFI) is a major contributor to outpatient morbidity in low- and middle-income countries, particularly in India, where diverse infectious aetiologies present with overlapping, non-specific symptoms. Inadequate access to diagnostics often leads to empirical antimicrobial use, contributing to antimicrobial resistance (AMR). However, longitudinal community-level evidence capturing fever incidence, care pathways and treatment practices remains scarce. Objective: To assess the incidence, care-seeking behaviour, diagnostic practices, and extent of avoidable antimicrobial use in the management of AFI in a rural North Indian community.

MATERIALS AND METHODS

We conducted a prospective longitudinal household survey in Ambala district, Haryana. Approximately 30,000 individuals were followed fortnightly over a six-month baseline period to record fever episodes, symptoms, care-seeking, diagnostic testing and treatment practices. Individuals reporting fever were followed up at 30 days for detailed clinical pathways and expenditure data.

RESULTS

A total of 2,067 AFI episodes were recorded over 6,944,360 person-days of surveillance (incidence: 0.30 per 1,000 person-days; 8.9 per 1,000 person-months), of which 1,856 (89.8%) had complete 30-day follow-up and form the analytic sample; mean fever duration was 3.0 days. Most cases were classified as upper respiratory tract infections (45.1%) or non-specific febrile illnesses (26.8%). Care-seeking was common but fragmented: informal providers (35.3%) and selfmedication (28.8%) accounted for the majority, privateformal care for 29.4%, while public facilities contributed only 6.6%.Overall, 30.7% of episodes involved antibiotic use, with high consumption intensity (1.76 DDDs per antibiotic course among adults), predominantly from Watch-group antibiotics (67.2%). Avoidable (irrational) antibiotic use was substantial (24.3% among fever/URTI/non-specific episodes), particularly among informal and private- formal providers, where the odds of irrational prescribing were three- to five-fold higher than public facilities, reflecting largely empirical management in the absence of diagnostics.

CONCLUSIONS

AFI management in rural India is characterised by low diagnostic utilisation, high reliance on informal and private care, and substantial avoidable antimicrobial use. Strengthening access to point of-care diagnostics and targetingprescribing practices—particularly in the informal and private sectors are critical to improving case management and mitigating AMR.

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Abstract 58 ASPICON 2026 | October 08 - 11 | 2026

Syndrome Stratified Antibiogram of Gram-Negative Bacilli: A One-Year Comparative Analysis from a Tertiary Care Center in South India

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BACKGROUND

Conventional hospital-wide antibiograms pool isolates across all clinical syndromes, potentially obscuring clinically important, syndrome-specific differences in antimicrobial susceptibility. We compared antimicrobial susceptibility of major Gram-negative bacilli (GNB) across four clinical syndromes at a tertiary care center in South India.

MATERIALS AND METHODOLOGY

In this retrospective, hospital-wide analysis, nonduplicate GNB isolates (Escherichia coli, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa) recovered fromclinical specimens over one year were stratified by syndrome as sepsis/BSI, urinary tract infection (UTI), ventilator-associated pneumonia (VAP), and sterile body-site infection (SBSI) — and tested against organism-appropriate antibiotic panels per CLSI M100 (35th edition) breakpoints. Susceptibility proportions were compared across syndromes using chi-square/Fisher-Freeman-Halton exact tests, with Holm-Bonferroni-corrected pairwise z-tests for twoproportion comparisons.

RESULTS

8,665 isolates were analyzed (UTI 4,322; VAP 2,102; sepsis/BSI 1,807; SBSI 434). VAP isolates showed significantly lower susceptibility than sepsis/BSI and UTI isolates across nearly every antibiotic tested in E. coli, K. pneumoniae, and A. baumannii ($p<0.001$ for most comparisons), with A. baumannii VAP isolates showing near pan-resistance (2.0-14.0% susceptibility to all agents except minocycline, 38.1%). E. coli and K. pneumoniae showed a consistent extended-spectrum β-lactamase (ESBL)-like signature, with β-lactam/β-lactamase-inhibitor (BL-BLI) combinations outperforming third-generation cephalosporins across all syndromes. P. aeruginosa did not follow the VAP-predominant resistance pattern seen in the other three organisms; sepsis/BSI was its best-covered syndrome for five of six antibiotics tested, with comparatively modest (10-18%) syndrome-related variation.

CONCLUSION

Clinical syndrome is a major, statistically significant determinant of Gram-negative antimicrobial susceptibility that a pooled hospital-wide antibiogram cannot capture. Syndrome - stratified antibiograms, particularly distinguishing VAP from other infections, should inform empiric antibiotic selection, especially for E. coli, K. pneumoniae, and A. baumannii.

KEYWORDS

Antibiogram; Gram-negative bacilli; Antimicrobial resistance; Stratified antibiogram; CLSI M39

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Abstract 59 ASPICON 2026 | October 08 - 11 | 2026

Beyond Prescriptions: A Multi-Stakeholder Qualitative Exploration of Antibiotic Use and Antimicrobial Resistance in Primary Care in North India

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BACKGROUND

Antimicrobial resistance (AMR) is among the gravest health threats facing India, yet stewardship efforts remain concentrated in tertiary hospitals. How antibiotic decisions are made in primary care, where most outpatient antibiotic exposure occurs, remains poorly understood.

MATERIALS AND METHODS

An exploratory qualitative study was conducted across urban and rural primary healthcare settings in District Panchkula, Haryana. Participants were purposively sampled for maximum variation. Forty-seven in-depth interviews were conducted (June–August 2025) with government doctors (n=25), private practitioners (n=5), informal healthcare providers (IPs, n=4), patients (n=8), program officers (n=3) and policymakers (n=2), continuing until thematic saturation. Stakeholder-specific semi-structured guides were developed from the literature, reviewed by a multidisciplinary expert panel and pre-tested. Interviews were audio-recorded, transcribed verbatim and translated into English. Thematic analysis was applied, and the resulting themes were deductively mapped onto the Capability, Opportunity, Motivation–Behaviour (COM-B) framework to identify Results: modifiable intervention targets.

RESULTS

Irrational antibiotic use was driven less by knowledge deficits than by three constraint domains acting simultaneously. Capability: limited awareness of Standard Treatment Guidelines and reliance on clinical experience. Opportunity: culture and susceptibility testing unavailable below district level, high patient loads, prescribing dictated by facility stock rather than indication, and unrestricted over-the-counter access. Motivation: perceived patient expectation, peer influence, habitual prescribing and financial interests. IPs prescribed on symptoms alone, sustained by economic dependence on patient volume. Patients selfmedicated, reused leftover antibiotics, and discontinuedtreatment early. Policymakers cited weak guidelines implementation and limited Schedule H1 enforcement to control over-the-counter sale of antibiotics.

CONCLUSION

Irrational antibiotic use in primary care is a system problem, not an awareness problem; training-led stewardship engages only one of three domains sustaining it. As the National Action Plan on AMR 2.0 (2025–2029) enters implementation, primary-care stewardship must couple education with diagnostic access, supply alignment, prescription audit, demand reduction and engagement of informal providers. Keywords: Antimicrobial resistance; antimicrobial stewardship; COM-B; thematic analysis; primary health care; informal healthcare providers; India.

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Abstract 60 ASPICON 2026 | October 08 - 11 | 2026

Extensively Drug-Resistant Enterobacter cloacae complex Bloodstream Infection Outbreak in a Neonatal Intensive Care Unit: Clinical Characteristics, Antimicrobial Susceptibility and Outcomes

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BACKGROUND

Enterobacter cloacae complex is an important healthcare-associated pathogen in neonatal intensive care units (NICUs), with outbreaks posing particular challenges because of antimicrobial resistance and the vulnerability of preterm infants. We describe the clinical characteristics, antimicrobial susceptibility profile, and outcomes of an E. cloacae complex bloodstream infection outbreak in a tertiary-care NICU.

MATERIALS AND METHODS

A retrospective observational study was conducted among infants with blood culture- confirmed E. cloacae complex infection identified during a NICU outbreak from April,2025- February,2026. No E. cloacae complex bloodstream infections had been documented in the prior years. Demographic characteristics, gestational age, birth weight, onset age, clinical manifestations, organ dysfunction, antimicrobial susceptibility, outcomes, environmental, healthcare-worker screening, and infection-prevention interventions were reviewed. Descriptive statistics were used.

RESULTS

18 isolates from 15 infants with E. cloacae complex bloodstream infection were identified. 13/15(86.7%) were preterm, with median gestational age of 31.6 weeks(27.3–39.7 weeks) and median birth weight of 1332 grams(642–2600 grams); six(40%) weighed <1000 grams. Median age at onset was 8 days(1–14 days). All infants received total parenteral nutrition(TPN) and had central vascular access. 12/15(80%) developed septic shock requiring inotropes, 7/10(70%) had meningitis, 6/15(40%) developed necrotizing enterocolitis. Resistance to gentamicin and piperacillin-tazobactam occurred in 17/18(94.4%), meropenem in 13/18(72.2%), and colistin in 10/17(58.8%). Ceftazidime-avibactam was susceptible in 6/18(33.3%), whereas ceftazidime-avibactam-aztreonam demonstrated susceptibility in 16/17(94.1%). Overall mortality was 40%(6/15). Environmental and healthcare-worker screening was inconclusive. Enhanced hand hygiene and laminar airflow for TPN preparation were implemented, following which no further cases were identified through August,2026.

CONCLUSIONS

This E. cloacae complex outbreak predominantly affected preterm infants and was associated with extensive antimicrobial resistance, severe morbidity, and substantial mortality. The marked discordance between susceptibility to ceftazidime-avibactam and its combination with aztreonam highlights the potential therapeutic relevance of combination susceptibility testing.Despite an unidentified source, strengthened infection-prevention measures was followed by sustained outbreak control.

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Abstract 61 ASPICON 2026 | October 08 - 11 | 2026

Unravelling Carbapenemases in Blood Stream Infections: A Practical Stepwise Therapeutic Approach for Carbapenem Resistant Endemic Setting

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BACKGROUND

Bloodstream infections (BSI) due to carbapenem resistant Gram-negative bacilli (GNB) pose a grave concern. Treatment options are currently limited, which includes ceftazidime-avibactam (CZA), CZA and aztreonam (CZA-ATM), and colistin. The aim of the study was to evaluate the distribution of various carbapenemases among GNB isolated from blood cultures and to assess in-vitro susceptibility of these isolates to CZA and colistin, as well as the synergistic activity of CZA -ATM. We also tried to build a therapeutic algorithm for practical use in a carbapenem resistant endemic setting.

MATERIALS AND METHODOLOGY

A total of 447 GNB isolated from blood cultures were subjected to lateral flow assay (LFA) for presence of 5 different carbapenemases. Of which, 77% (344/447) isolates showed the presence of carbapenemases. Serine producers were tested for CZA susceptibility. MBL or dual (serine+MBL) producers were tested for CZA-ATM synergy. All isolates were tested for colistin susceptibility using standard microbiological methods.

RESULTS

Among 344 carbapenem-resistant isolates, 56% (193/344) were K. pneumoniae, followed by 31% (105/344) Escherichia coli and 11% (38/344) Pseudomonas aeruginosa. Out of 344 isolates, 50% (172/344) were MBL producers, followed by 38% (131/344) dual producers and 12% (41/344) serine carbapenemase producers. Among serine producers, 80.5% (33/41) isolates demonstrated susceptibility to CZA. Among MBL and dual producers, 70% isolates (213/303) showed CZA-ATM synergy positive, 30% (90/303) isolates demonstrated CZA-ATM synergy negative. Around, 89% (144/162) isolates of *K. pneumoniae* showed synergy positive; whereas 85% (28/33) isolates of *Pseudomonas aeruginosa* and 41% (41/101) isolates of *Escherichia coli* showed synergy negative. Overall, 98% (338/344) isolates showed intermediate susceptibility to colistin.

CONCLUSIONS

Resistance to carbapenems is a matter of concern. Early detection of carbapenemases is essential for timely initiation of targeted therapy. Among MBLs, empirical initiation of CZA-ATM or colistin becomes pathogen dependent. Treatment should be continued or modified based on the final AST results.

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Abstract 62 ASPICON 2026 | October 08 - 11 | 2026

ESKAPE in the Flames: Burden and Antimicrobial Resistance among Burn Patients in an Intensive Care Unit

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BACKGROUND

Burn injury compromises the skin barrier, increasing susceptibility to bacterial colonization and infection. The emergence of ESKAPE pathogens with extensive antimicrobial resistance further complicates infection management and limits therapeutic options. Early identification of these pathogens and their resistance profiles is therefore essential for appropriate treatment.

MATERIALS AND METHODOLOGY

A prospective observational study was conducted among patients admitted to the intensive care unit of AIIMS. Patients meeting predefined eligibility criteria were screened, and clinical samples were evaluated by microbiological culture. Patients with culturepositive infections were classified into ESKAPE and non-ESKAPE groups. Bacterial isolates were identified from wound swabs and blood samples, and antimicrobial susceptibility testing was performed for the identified ESKAPE pathogens against relevant antibiotics.

RESULTS

Of the 76 patients with culture-positive infections, 61 had classifiable bacterial infections, including 46 (75.4%) with ESKAPE and 15 (24.6%) with nonESKAPE pathogens. Among 110 bacterial isolates, ESKAPE organisms accounted for 78 (70.9%), while non-ESKAPE organisms accounted for 32 (29.1%). *Klebsiella pneumoniae* (26; 23.6%), *Acinetobacter baumannii* (25; 22.7%), and Pseudomonas aeruginosa (17; 15.5%) were the predominant ESKAPE isolates. Antimicrobial susceptibility analysis demonstrated substantial resistance among the major Gram-negative ESKAPE pathogens, particularly *K. pneumoniae* and *A. baumannii,* with resistance extending across multiple antimicrobial cephalosporins, classes, β-lactam/β-lactamase including inhibitor combinations, fluoroquinolones, carbapenems, and aminoglycosides. The resistance profiles highlighted a considerable therapeutic challenge in the management of ESKAPE-associated burn wound infections.

CONCLUSIONS

ESKAPE pathogens constituted the predominant bacterial burden among culture- positive burn patients, with *K. pneumoniae, A. baumannii, and P. aeruginosa* being the major contributors. The extensive antimicrobial resistance observed across multiple drug classes emphasizes the need for routine microbiological surveillance, antimicrobial susceptibility- guided therapy, and development of rapid diagnostic approaches for timely detection of ESKAPE pathogens and antimicrobial resistance in burn wound infections.

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Abstract 63 ASPICON 2026 | October 08 - 11 | 2026

From Empiricism to Action in One Hour: Real-World Diagnostic Stewardship Yield of a Syndromic Pneumonia Panel

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BACKGROUND

Severe lower respiratory tract infection in critically ill patients drives broad-spectrum empirical therapy while culture and susceptibility results mature. We assessed the real-world diagnostic-stewardship yield of rapid syndromic testing, emphasizing organism burden, co-detection, viral-only results and resistance markers.

MATERIALS AND METHODOLOGY

This Cross sectional study including all BIOFIRE FILMARRAY Pneumonia plus runs at a tertiary-care teaching hospital from August 2025 July 2026. Valid runs were counted once. Bacterial targets were stratified by semi-quantitative bins; atypical bacteria, viruses and resistance genes were qualitative. A threshold of ≥106 genomic copies/mL was used only as a descriptive higher-burden stratum, not proof of causality.

RESULTS

Of 112 runs, 106 (94.6%) were valid; 99 used the BAL protocol and seven the sputum protocol. At least one pathogen was detected in 85/106 (80.2%): bacteria in 77 (72.6%), viruses in 40 (37.7%) and viral targets alone in eight (7.5%). Multiple pathogens occurred in 59/85 positive specimens (69.4%); at least two bacterial targets occurred in 45/77 bacterial-positive specimens (58.4%). Leading bacterial detections were Acinetobacter calcoaceticus-baumannii complex (36), Klebsiella pneumoniae group (30), Pseudomonas aeruginosa (26) and Staphylococcus aureus (22). Among 186 semi-quantitative bacterial detections, 121 (65.1%) were in the 104 -105 bins and 65 (34.9%) were ≥106 Resistance markers occurred in 65/106 (61.3%), led by NDM (53), VIM (44) and CTX-M (41).

CONCLUSIONS

Rapid multiplex testing exposed a dense polymicrobial and resistance landscape within approximately one hour. Stewardship requires structured interpretation: review antibiotics promptly in viral-only or panel-negative cases; use aligned organism burden and resistance markers for early treatment optimization; and avoid treating lowbin colonizers without Gram stain, culture and clinical correlation. Prospective linkage to antibiotic changes and days of therapy should quantify realized benefit.

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Abstract 64 ASPICON 2026 | October 08 - 11 | 2026

Strengthening Antimicrobial Stewardship through Pharmacovigilance Programme of India: A Five Year Analysis of Antimicrobial-associated Adverse Drug Reactions from a Tertiary Care Centre

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BACKGROUND

Antibiotics are among the most frequently implicated drug classes in adverse drug reactions(ADRs),which may result in significant morbidity, treatment interruption and healthcare utilisation.Yet a substantial proportion of it are potentially preventable. This study aimed to characterise antibiotic associated ADRs reported to the pharmacovigilance centre of a teritiarycare teaching hospital over a five-year period and to identify oppurtunities to improve antimicrobial safety.

MATERIALS AND METHODOLOGY

A retrospective observational study was conducted using ADR reports submitted to our ADR Monitoring Centre between 1 July 2021 and 30 June 2026. Reports with antibiotic as the suspect drug were extracted. Data regarding patient demographics, suspected antibiotics, antibiotic class and type of reaction were analysed. Causality was assessed through WHO-UMC Scale and Naranjo Scale. Preventability was assessed by Schumock Thorton Scale.Descriptive statistics were used to summarise the findings.

RESULTS

Of the 803 ADRs reported during the study period, 218 (27.1%) were attributed to antibiotics, with females population accounting for 61.9%. Among AWaReclassified antibiotics, Watch-group antibiotics predominated (38.1%), followed by Access (13.3%) and Reserve (4.6%). Vancomycin was the most frequently implicated antibiotic, accounting for 29 (13.3%) of all ADR reports. The reported reactions were predominantly cutaneous and hypersensitivity reactions(57.3%), including rash, itching, urticaria, anaphylaxis, infusion reactions, SJS/TEN, and DRESS. Other important reactions included electrolyte disturbances(11.4%) and nephrotoxicity(1.3%). Overall, 106 (48.6%) reported reactions were serious, while 158 (72.5%) patients recovered from the reported reactions. Pharmacovigilance findings were translated into actionable stewardship feedback, including recommendations for optimising dose and dosing frequency, extending infusion duration and appropriate pre-medication to reduce the risk of preventable ADRs. This study demonstrated the potential of integrating ADR surveillance with antimicrobial stewardship to promote safer antimicrobial use.

CONCLUSION

Integration of pharmacovigilance with AMSP can provide valuable insights into the patterns and severity of antibiotic-associated ADRs and facilitate timely, actionable intervention to improve antimicrobial safety. Systematic ADR surveillance can support identification of preventable reactions and promote safer and more rational antimicrobial use.

KEYWORDS

Antimicrobial stewardship; Pharmacovigilance; Adverse drug reaction

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Abstract 65 ASPICON 2026 | October 08 - 11 | 2026

Improving Syndromic Indication Documentation to Enhance Antimicrobial Stewardship in a Critical Care Unit: An Interrupted Time-Series Quality Improvement Study

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BACKGROUND

Documentation of syndromic indication for antimicrobial prescription (SIAP) is crucial to monitor indiscriminate antimicrobial use. However, during routine Antimicrobial Stewardship Programme (AMSP) rounds, SIAP documentation was substantially missing despite repeated reminders. Hence, a quality improvement (QI) initiative was undertaken in critical care unit (CCU) aiming to improve physical SIAP documentation upto 70% within six months of initiation.

MATERIALS AND METHODOLOGY

A prospective QI study employing FOCUS-PDSA tool was conducted from December 2025 to July 2026, comprising a 4-month pre-intervention (PIP; December–March) and intervention periods (IP; AprilJuly). Baseline SIAP documentation compliance in physical and electronic tablet records was assessed. Interventions included prescriber education, questionnaire-based sensitization, group discussions, daily assessment sheets review, electronic tracking, reminders and thrice-weekly prospective auditfeedback (PAF) during AMSP rounds. Primary outcome was SIAP documentation compliance; secondary outcome was reduction in antimicrobial consumption (AMC) measured as days of therapy (DOT)/1,000 patient-days. PIP and IP mean SIAP compliance proportions were compared using chi-square testing, while segmented interrupted time-series (ITS) regression assessed level and trend changes.

RESULTS

Physical SIAP documentation increased from 0% during PIP to 10.4%,18.6%,38%,50.6% during IP. Inclusion of electronic tablet records, significantly increased mean compliance from 12.6% to 70.4%, with cumulative compliance rising from 13.3% to 68.6% ($p<0.001$). ITS analysis demonstrated an immediate 8.4-percentage-point increase ($p=0.069$), while continued intervention slope increased significantly by 14.0 percentage points/month ($p=0.001$). Colistin consumption decreased by 30.1% (113.7 to 79.5 DOT/1,000 PD) and Polymyxin B by 5.5% (161.6 to 152.7). Ceftazidime–Avibactam-Aztreonam increased by 77.3 % (73.2 to 129.7), while Meropenem remained stable (427.8 to 435.6).

CONCLUSIONS

This ongoing multimodal PDSA-driven stewardship intervention substantially improved SIAP documentation and optimized selected antimicrobial use. Electronic tracking, PAF, structured antimicrobial review offers a scalable framework for strengthening criticalcare stewardship and optimizing AMC in the long run. Continued monitoring is ongoing to assess sustained impact.

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Abstract 66 ASPICON 2026 | October 08 - 11 | 2026

Population Pharmacokinetics of Itraconazole, SUBA-Itraconazole and Voriconazole in Recalcitrant Dermatophytosis Patients

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BACKGROUND

There is limited information on the population pharmacokinetics of triazole antifungals in patients with recalcitrant dermatophytosis. Recalcitrant dermatophytosis refers to persistent/relapsing infection of the skin by dermatophytes that show inadequate response to therapy with conventional anti-fungals. This study aimed to characterize the population pharmacokinetics of itraconazole, SUBA-itraconazole and voriconazole and identify clinically relevant covariates influencing their pharmacokinetic variability.

MATERIALS AND METHODOLOGY

The study was conducted by department of Pharmacology in collaboration with the department of Dermatology in a tertiary care centre in North India. Population pharmacokinetic analysis was performed on PUMAS-AI (v2.8.1) using nonlinear mixed-effects modelling of steady-state plasma concentration-time data. Separate models were developed for itraconazole/SUBA-itraconazole and voriconazole. The blood samples were collected at 2, 8 and 20 hours postdose and immediately before the next dose for itraconazole/SUBA-itraconazole, while voriconazole samples were obtained at 2, 4 and 6 hours post-dose and pre-dose. One- and two-compartment models with first-order absorption and elimination were evaluated. Inter-individual variability was modelled using exponential random effects and residual variability using appropriate error models. The covariates evaluated include body weight, age, sex, body mass index, creatinine and liver function parameters. The covariates were evaluated using stepwise covariate modelling. Model performance was assessed using goodness-of-fit and visual predictive check plots.

RESULTS

A total of 45 patients, 15 in each treatment group, were included in the study. A two-compartment model adequately described the pharmacokinetics of both itraconazole/SUBA- itraconazole and voriconazole. The formulation did not significantly influence absorption rate. For voriconazole, body weight was identified as a significant covariate on apparent clearance. None of the covariates significantly influenced the pharmacokinetic parameters Goodness-of-fit of itraconazole/SUBA-itraconazole. and visual predictive checks demonstrated adequate model performance without systematic bias.

CONCLUSIONS

The developed population pharmacokinetic models characterize the substantial pharmacokinetic variability of triazole antifungals in patients with recalcitrant dermatophytosis. These models provide a basis for further evaluation of exposure-response relationships and exposure guided dose optimization.

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Abstract 67 ASPICON 2026 | October 08 - 11 | 2026

Voriconazole Therapeutic Drug Monitoring in a Tertiary Care Centre

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BACKGROUND

Voriconazole is used for the treatment and prophylaxis of invasive fungal infections. The IDSA 2016 and ESCMID 2017 guidelines recommend routine therapeutic drug monitoring (TDM), because exposure varies widely, with failure below 1 mg/L and toxicity above 5 mg/L. This variability is due to saturable, CYP2C19 dependent metabolism, so dose and exposure are not proportional.

MATERIALS AND METHODOLOGY

368 voriconazole samples received by our TDM laboratory over the last 6 months were analysed by automated enzyme immunoassay. 368 voriconazole samples received by our TDM laboratory over the last 6 months were analysed by automated enzyme immunoassay.

RESULTS

368 levels from 182 patients were analysed, 92 (50.5%) paediatric and 90 adult. At first measurement only 69 patients (37.9%) were within target, while 62 (34.1%) were subtherapeutic and 51 (28.0%) supratherapeutic. Repeat samples were sent in 73 patients: 26 were within target on the first sample and 30 reached target on repeat sampling. Demonstrating two cases among them showing saturable kinetics: Case 1: A 4 month old male (4 kg) with severe combined immunodeficiency on intravenous voriconazole 40 mg 12 hourly had a trough of 11.17 mg/L. After a 33% dose reduction three successive troughs were at the upper limit of quantification (16 mg/L), and conversion to once daily dosing produced no fall. Case 2: A 50 year old woman on oral voriconazole 200 mg 12 hourly had three samples within one dosing interval measuring 14.46, 15.32 and 15.84 mg/L, a peak to trough ratio of 1.1 against an expected 2 to 3. After withholding and restart at 100 mg 12 hourly the trough fell to 2.31 mg/L, an 84% fall for a 50% reduction.

CONCLUSIONS

TDM is essential for voriconazole, which cannot be dosed reliably by weight and indication alone. Nonlinear kinetics make each dose change unpredictable, so levels must be repeated.

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Abstract Author Index

The number(s) following each author's name indicate the corresponding abstract number.

Abhilash Kumar, 15

Adarsh Bansal, 59

Adyasha Nayak, 63

Akshat Bangia, 45

Amalasmitha L. V, 37

Angelene Ekka, 32

Bandana Boro, 4

Bharat Chandra Das, 26, 55

Charmak Techi, 36

Chetanya Mittal, 52

Diya, 29

Drashti Vaghani, 67

Emma Manuel, 58

Erriswami Taluru, 22

Gagan Harnathka, 27

Gargee Mishra, 56

Gayathri J S, 1

Haarish J, 10

Hanny Japhina, 2

Hanny Japhina C, 3

Harsh Jain, 61

Harsha Suresh Mathew, 31

Harshita, 60

Himanshu Sekhar Panda, 39

Hitasha Sharma, 28

Janhavi Shyamnarayan Prajapati, 9

Jayprakash, 30

Kashish Madaan, 40

Krishnapriya N, 64

Krittika Dotania, 62

Kunika Batra, 38

Maheshwari Periyasamy, 41

Manmeet Kaur, 53

Manuel Jose, 42

Mansi Thakur, 54

Medhansh Biradar, 23

Mohd Yaseen, 19

Mythilipraba S, 20

Naveen Kumar, 33

Nihilan S, 24

Nikhil Aravind, 66

Nishan Joshi, 25

Niti Mittal, 16

Pradip Raut, 47

Prakhar Srivastava, 7

Prasoon Sharma, 18

Preetika Singh, 13

Priyanka Gupta, 5

Puneet, 51

Rupamdeep Kaur, 34

S Zeeshan Ahmad Hashmi, 17

Sadia Hassaan, 8

Sajitha Venkatesan, 65

Sangramjeet Show, 35

Shaboni Yadav, 14

Shefali Gupta, 50

Shobha, 44

Shubhali Vaid, 43

Shreesh Mishra, 21

Shweta Sharda, 57

Soosan Prasad, 6

Sutar Sneha, 11

Tanushree Dadasaheb Yatam, 12

Tina Mehlawat, 49

ISSN: 3048-4510 (Online)
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