

An audit of empirical aminoglycosides use among hepatobiliary cases in Sarawak General Hospital

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ABSTRACT

Introduction: Biliary sepsis causes high mortality. Timely relief of biliary obstruction with appropriate empirical antimicrobial use is crucial. The choices of empirical antimicrobials varied among centres. The aim of this audit was to assess the appropriateness of empirical aminoglycosides in biliary sepsis cases based on local antimicrobial patterns. **Methods:** A retrospective audit on the use of amikacin in surgical wards was carried out from January to June 2023 in Sarawak General Hospital (SGH). The data was extracted from satellite pharmacy and medical records. Thirty-one patient records were reviewed. **Results:** Thirty-one cases were included, where 61.3% were males. The median age was 57-years-old (IQR 29.75). The causes of biliary sepsis include obstruction secondary to a tumour (39%), post-instrumentation cholangitis or pancreatitis (26%), choledocholithiasis (16%) and post-operative cholangitis (19%). Seventy-four percent had recent hospitalisation. The empirical antibiotics used in conjunction with amikacin were amoxicillin-clavulanic acid (16%), piperacillin-tazobactam (32%), ceftriaxone (26%), cefuroxime (13%) and meropenem (10%). Bile cultures and blood cultures had a positive rate of 29% respectively. The top 3 pathogens isolated from the bile culture were *Escherichia coli* (non-ESBL strain), *Klebsiella pneumoniae* (non-ESBL strain), and *Proteus mirabilis*. Most pathogens isolated were susceptible to amoxicillin/clavulanic acid with or without amikacin. **Conclusion:** We recommend the use of amikacin (1 to 3 doses) in synergism with amoxicillin/clavulanic acid in cases of biliary sepsis with shock and cases with technical challenges. The definitive antimicrobial selection is based on bile and blood culture results. Local antibiogram data need to be monitored and communicated to the treating clinicians timely for informed decisions.