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The compliance of gentamicin prescription in surgical patients using Hartford regimen: Clinical Audit

Abstract:

Aims: This audit aimed to evaluate the adherence to prescribing protocols for gentamicin in surgical patients using Hartford regimen, focusing on dose accuracy, therapeutic drug monitoring, and level interpretation.

Methods: A two-cycle audit was conducted to assess compliance with local gentamicin prescribing guidelines. Data were collected retrospectively from acutely admitted surgical patients prescribed gentamicin. The first cycle included 15 patients, while the second cycle reviewed 16 patients. Parameters analyzed included the right initial dose, post-dose level measurement and timing, and the accuracy of interpreting therapeutic drug levels. Interventions, including education and revised prescribing protocols, were introduced between the two cycles to address identified deficiencies.

Results: In the first audit cycle, 60% of patients received the correct initial dose of gentamicin. Post-dose levels were taken in 90.9% of cases, with 80% measured within the appropriate time frame, and 75% of these levels were interpreted correctly. Hartford regimen was applied correctly in 50% of the cases. Following interventions, the second cycle demonstrated improvements in dose accuracy to 88% and level interpretation to 75%, though a decline was observed in the post dose level taken to 85.7% and timing of post-dose level measurements to 66.6%. Overall, the Hartford regimen was applied correctly in 66.6%. Persistent challenges included inconsistent timing of therapeutic monitoring.

Conclusions: The interventions implemented resulted in significant improvements in dosing accuracy but highlighted ongoing issues with the timing of level monitoring. Future strategies should emphasize further education, clear handover, teaching modules and robust documentation systems to enhance compliance and patient safety.

Biography

Ibrahim Abuelbeh is a Clinical Fellow in Urology in the United Kingdom. After earning a medical degree from the University of Jordan, he pursued surgical training in general surgery and then in urology, gaining extensive clinical and research experience. Passionate about improving surgical outcomes, Dr. Abuelbeh focuses on both clinical and academic aspects. Actively involved in research and education, he strives to advance urological techniques and patient care. Committed to continuous learning, Dr. Abuelbeh aims to contribute to the evolving field of urology through innovation and expertise.