

Cost-Effective Dose Banding: Revolutionizing Methotrexate Management for Ectopic Pregnancy

*Sharvari Kasture, Corah Ohadike
King’s Mill Hospital, Mansfield*

Background

Traditional methotrexate administration for ectopic pregnancy relies on individualized body surface area (BSA) calculations, leading to potential delays and increased costs. Dose banding, a proven method in oncology, utilizes pre-prepared, fixed-dose bands, eliminating the need for real-time calculations. This approach has demonstrated significant cost savings and improved efficiency in cancer treatment settings, offering a novel solution for early pregnancy complications.

Methods

This study evaluated dose banding at Kings Mill Hospital from June 2023 to June 2024. It included 15 patients with ectopic pregnancies managed medically with methotrexate via dose banding.

Discussion

To implement this approach, hospitals should adopt standardized methotrexate doses (e.g., 50 mg, 75 mg, 100 mg) available in pre-filled syringes. Comprehensive staff training will be crucial for proper patient selection and adherence to new protocols. The use of dose banding can significantly address current challenges in ectopic pregnancy management, offering a cost-effective solution while enhancing patient outcomes and streamlining healthcare delivery.

Results

The success rate was 93.3% (14/15 patients), comparable to BSA-based dosing. Patient wait times significantly decreased from almost 24 hours to an average of 2 hours and 11 minutes.

Advantages of Dose Banding

Cost Savings: Pre-prepared doses minimize drug wastage and streamline pharmacy operations, resulting in substantial cost reductions.

Reduced Waiting Times: Patients receive prompt treatment, as pre-calculated doses eliminate delays associated with individualized preparation.

Improved Workflow: Dose banding simplifies processes for clinicians and pharmacists, ensuring timely and efficient patient care

Safety and Efficacy: Studies confirm that dose banding delivers comparable clinical outcomes to BSA-based dosing, maintaining high success rates in resolving ectopic pregnancies.

Conclusion

Dose banding for methotrexate administration represents an innovative, cost-effective approach to the medical management of ectopic pregnancy. By adopting this method, healthcare systems can achieve significant cost savings, reduce delays, and optimize care delivery. Further research and pilot studies are recommended to validate this approach and establish best practices for its implementation in obstetrics and early pregnancy care.