

**Comparison of rectally administered misoprostol and intramuscular oxytocin in the active management of third stage of labor at Muhimbili national hospital, Tanzania**

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The study was done to compare the safety, efficacy and cost of rectal Misoprostol with intramuscular Oxytocin in the management of third stage of labor. Setting: This was a randomized clinical trial conducted in labor ward at Muhimbili National Hospital, Tanzania from 14th October 2005 to 31st January 2006. Methods: Four hundred and twenty six pregnant mothers in active phase of labor were enrolled in the study. Twelve women were excluded from the study due to caesarean section. Misoprostol 400.tg was administered rectally in 210 parturients in comparison to intramuscular Oxytocin at a dose of 5 iu in 204 parturients. Results: There was equal mean estimated blood loss between Misoprostol and Oxytocin group (161.14mls versus 168.66mls,  $p=0.524$ ) respectively. More women in Misoprostol had a drop of  $>10\%$  in Haematocrit as compared to Oxytocin, 18.1% versus 14.2%  $p= 0.0559$ . Drop in Haematocrit was sensitive in detecting PPH as compared to EBL with significance difference in the patient who had covert PPH, but as a whole there was no significant difference between Misoprostol and Oxytocin group. Duration of third stage of labour was similar 8.02 minutes versus 8.66 minutes  $p=0.358$  in Misoprostol and Oxytocin groups respectively. Women who needed more uterotonic drug after initial dose were 7.4% and 4.3%  $p=0.191$  in Oxytocin and Misoprostol respectively. Abnormal third stage of labour in terms of retained placenta occurred in 3.4% of Oxytocin group versus 1.4%  $p=0.1838$  in Misoprostol group. Shivering and nausea were the most prevalent side effect reported in Misoprostol group 3.3% and 2.9%,  $p=0.163$  respectively. Conclusion: Rectal Misoprostol at a dose of 400.tg is effective in AMTSL and therefore prevention of postpartum hemorrhage. It is safe but expensive compared to intramuscular Oxytocin however this cost is superseded by other advantages like being heat stable, no skill in administration, no refrigerator in storage and can be used in both institutionalized and non-institutionalised deliveries.

