Commentary on

Randomized double blind prospective trial of active management of the third stage of labor

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There are 2 different and well studied strategies for management of the third stage of labor. These are the active and the physiologic management of the third stage of labor. The active management involves the administration of uterotonics with delivery of the anterior fetal shoulder, gentle downward cord traction with counter traction of the uterine body after delivery of the fetus and early cord clamping. The physiologic management does not recommend the administration of uterotonics until placental delivery (if at all), no cord traction and clamping of the umbilical cord usually after cord pulsation cease [1, 2]. The investigators of the Hutchingbrooke trial observed that the rate of postpartum hemorrhage was significantly greater in the women using the physiologic management and that in 1/3 of these pregnancies the physiologic management had to be abandoned because of pregnancy complications. This large study emphasized the differences in blood loss and complications between these 2 management strategies [3].

The importance of the prophylactic use of oxytocin compared with no oxytocin in the third stage of labor was recognized in a review of controlled trials over a 30 year time span by Prendville and Elbourne [4]. They concluded from their analysis that the rate of postpartum hemorrhage was reduced by 40-50% with the prophylactic use of oxytocin and have strongly recommended its use in the third stage of labor [4, 5]. These studies validate the active management of labor and the prophylactic use of oxytocin to primarily prevent postpartum hemorrhage.

Tharakan and Jha present an interesting study in which the timing and mode of oxytocin administration was evaluated in a randomized double blind comparing intravenous oxytocin to a placebo (saline). The patients received either 11 ml of saline or 10 ml of saline and 1 ml of oxytocin (10 units) given IV after delivery of the baby and then the other vial, either saline or oxytocin was added to the IV bag. This was followed by all patients then receiving an additional one liter of fluid with 20 units of oxytocin. Outcomes assessed included the length of the third stage of labor, blood loss, change in hematocrtits and third stage complications. The only significant finding was the estimated blood loss was greater in women who received the placebo (saline). Although a trend for a longer third stage of labor and greater drop in the hematocrit was observed in the placebo group

the sample size may have been too small to detect any differences. This trial is particularly noteworthy in its trial design. Prospective randomized double blind trials can provide the strongest evidence (Level 1) of the usefulness of a drug. Several improvements in the trial design could have made the results even more meaningful. A sample size determination, at the time of the study design, would have assisted in ensuring that the study was adequately powered. Inexpensive collection devices are now available that will measure the collected blood at the time of vaginal delivery and those results would be more meaningful than an estimated blood loss. Future work by this group and/or others is needed to minimize the morbidity that may accompany the third stage of labor [6].

The overall importance of the management of the third stage of labor cannot be overemphasized. Approximately 25% of the 515,000 maternal pregnancy related deaths are the result of postpartum hemorrhage as reported by the World Health Organization [1]. One of the most significant risk factors for a postpartum hemorrhage is the length of the third stage of labor. Recognition of risk factors for a postpartum hemorrhage, the active management of the third stage of labor, and the shortening of the third stage of labor are all important in reducing the morbidity that may accompany the time from deliver of the neonate until delivery of the placenta [7, 8].

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