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Society for Maternal-Fetal Medicine

Study finds women used 30 percent less analgesia during labor when self-administered

SAN FRANCISCO (February 10, 2011) — In a study to be presented today at the Society for Maternal-Fetal Medicine's (SMFM) annual meeting, The Pregnancy Meeting ™, in San Francisco, researchers will present findings that show that when women administer their own patient-controlled epidural analgesia (PCEA) instead of getting a continuous epidural infusion (CEI) they used less analgesic, but reported similar levels of satisfaction.

Women often receive a continuous epidural infusion of analgesic during labor. This can lead to prolonged labor and an increase in assisted vaginal delivery. Several pain management studies have been done to begin looking at how much analgesia women use and what their pain experience is like when they are able to administer it themselves.

"We conducted the first double blind study, excluding inductions and including only women who were delivering for the first time, so that we could get a good sample of women with similar labor patterns," said Michael Haydon, M.D., one of the study's authors.

The study was a double-masked trial in which 270 nulliparous women were randomized to one of three groups. Initially, an intrathecal dose of 2 mg bupivicaine/20mcg fentanyl was given followed by maintenance epidural infusion 0.1% bupivicaine/2 mcg/ml fentanyl. Group 1 CEI background only (10 mls/hr); Group 2 CEI+PCEA(CEI at 10 ml/hr plus PCEA 10 ml, 20 min lockout; Group 3 PCEA only (PCEA 10 ml, 20 min lockout). PCEA bolus button was given to each subject and the pump acknowledged the request regardless of group assignment. The primary outcome was dosage of local anesthetic used. Secondary outcomes include obstetric outcomes and maternal satisfaction.

The study results showed that total mg bupivicaine used was less in the PCEA only group compared to CEI; group 1 (74.9 ± 36 mg), group 2 (95.9 ± 52 mg), group 3 (52.8 ± 42 mg) $p<.001$. No differences

were seen in total time of labor; group 1 (8.4 hr), group 2 (7.9 hr), group 3 (8.0 hr) or cesarean delivery; group 1 (26/87), group 2 (23/84), and group 3 (22/85). Number of instrumented vaginal deliveries was slightly higher in subjects with a continuous background infusion; group 1 (8/87), group 2 (8/84), group 3 (3/85). Neither lower extremity strength nor urge to push were affected by method of epidural. Pain with pushing, however, was worse in PCEA only. Median satisfaction scores were similar; 0 (best)-100(worst); group 1: 0 (0-100), group 2: 0 (0-100), group 3: 0 (0-100).

The study concluded that PCEA resulted in 30 percent less analgesia being used while maintaining high maternal satisfaction. There was also a trend toward reduction in instrumented vaginal deliveries in the PCEA only group.

"Though patients in each group showed equal satisfaction, we did note that there was more pain during the final delivery stage in the PCEA group," said Haydon. "The next step is to look at shortening the lock-out intervals between doses, or having the option of administering additional analgesia during the final pushing stage."

Haydon also noted that, in future, he expects the technology to move in the direction of automated analgesia delivery in response to patient need.

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For interviews or a copy of the abstract please contact Vicki Bendure at Vicki@bendurepr.com, or 202-374-9259.

The Society for Maternal-Fetal Medicine (est. 1977) is a non-profit membership group for obstetricians/gynecologists who have additional formal education and training in maternal-fetal medicine. The society is devoted to reducing high-risk pregnancy complications by providing continuing education to its 2,000 members on the latest pregnancy assessment and treatment methods. It also serves as an advocate for improving public policy, and expanding research funding and opportunities for maternal-fetal medicine. The group hosts an annual scientific meeting in which new ideas and research in the area of maternal-fetal medicine are unveiled and discussed. For more information, visit www.smfm.org.