EBP of 20-30 mL for Dural Puncture Headache

BY MIRIAM E. TUCKER

FROM THE SOCIETY FOR OBSTETRIC ANESTHESIOLOGY AND PERINATOLOGY

SAN ANTONIO – A 20-mL or 30-mL volume of autologous blood was superior to 15 mL in a randomized controlled trial of 121 obstetric patients who requested a therapeutic epidural blood patch for headache after inadvertent dural puncture during epidural insertion.

"We concluded . . . that an attempt to inject at least 20 mL should be made," said Dr. Michael Paech, the Winthrop Professor and Chair of Obstetric Anesthesia at the University of Western Australia, Perth.

Although 20 mL is the most commonly used volume for therapeutic epidural blood patch (EBP), some experts have advocated using smaller or larger volumes. A 2002 Cochrane review concluded that "adequately powered, randomized trials (including at least a few hundred patients) are required before reliable conclusions can be drawn about the role of epidural blood patching in the prevention and treatment of post-dural puncture headache" (Cochrane Database Syst Rev. 2002;(2): CD001791). In a recent update, the Cochrane group still did not recommend prophylactic EBP but concluded that "therapeutic epidural blood patch showed a benefit over conservative treatment, based on the limited available evidence" (Cochrane Database Syst Rev. 2010;(1): CD001791). Until now, the largest study of therapeutic EBP involved 33 patients, Dr. Paech noted.

The current study took place at 10 international centers between September 2004 and August 2009. The 121 women were randomized to 15 mL, 20 mL or 30 mL of blood, and were stratified by center and by receipt of the EBP at less than or longer than 48 hours after dural puncture. They were placed in the lateral position, injected at a rate of 5 mL per 15 seconds, and remained supine for 2 hours after.

There were no significant differences among the three dosage groups in the composite end point of complete response (resolved within 4 hours with no recurrence) or partial response (severity reduced or recurrence), which was achieved by 61% of the 15-mL group, 73% of the 20-mL group and 67% of the 30-mL group.

However, complete remission with no recurrence was far less common in the 15-mL group, with just 10% achieving that end point, compared with 32% of the 20-mL group and 26% of the 30-mL group. Compared with the 15-mL group, the odds ratios for complete headache relief were 4.7 for 20 mL and 3.6 for 30 mL, Dr. Paech reported.

There were no significant differences among the groups in functional assessment of headache impact, time to return of headache (overall mean 98 hours), time from EBP to hospital discharge, or incidence of repeat EBP. About half of the patients experienced back pain during the EBP injection, while back pain after the EBP occurred in about 85% overall, did Major Finding: Complete headache remission was achieved in 10% of those receiving 15 mL of blood, compared with 32% with 20 mL, and 26% with 30 mL. Data Source: A 5-year, randomized, double-blind,

controlled, multicenter trial involving 121 women with postepidural dural puncture headache.

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not differ significantly among the groups, and was usually of low intensity, he said.

The proportions still suffering from moderate to severe back pain after 5 days did not differ significantly, although it was greater in the 15-mL group at 23%, compared with 12% of the 20-mL group and 11% of the 30-mL group. During the question-andanswer period, Dr. Paech noted that the odds of partial or complete relief of headache if EBP was performed more than 48 hours (about twothirds of all the subjects) from the dural puncture was 3.2 times greater than if done within 48 hours, a significant difference.

OBSTETRICS

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