The volume of autologous blood for epidural blood patch in obstetrics: A randomized, blinded clinical trial

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Background: An epidural blood patch (EBP) is used to treat post-dural puncture headache (1). The aim of this multi-national, multi-center, randomized, blinded clinical trial was to determine the optimum of three volumes of autologous blood injected for EBP.

Methods: Obstetric patients requesting EBP because of headache after inadvertent dural puncture during epidural insertion were allocated to receive 15, 20 or 30 ml of autologous blood, stratified for the timing of EBP and for center. Follow-up was 5 days. The primary study endpoint was a composite of complete or partial response and secondary endpoints included complete response, partial response, headache severity and back pain during or after the procedure. Statistical analysis was based on selection theory.

Results: 121 women completed the study, with two major protocol violations. The median (IQR) volume administered to each group was 15 [15-15], 20 [20-20] and 30 [22-30] ml. The complete or partial response rate did not differ between groups (61%, 73% and 67% in groups 15, 20 and 30 respectively). Complete, permanent relief of headache occurred in 10%, 32% and 26% of groups 15, 20 and 30 (P=0.04). Repeat EBP was required by 39%, 23% and 31% of groups 15, 20 and 30 (P=0.27). Post-procedural back pain did not differ between groups in incidence but was more severe in group 15. No serious morbidity was reported.

Conclusion: We conclude that 20 or 30 ml of blood achieves a better response than 15 ml and that the largest volume shows no apparent advantage.

References: