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Minimally Invasive Cosyntropin Matches Epidural Blood Patch for Post-Dural Puncture Headache in Controlled Trial

March 19, 2015, NATIONAL HARBOR, Md. – Intravenous (IV) cosyntropin therapy was equivalent to epidural blood patch (EBP) in relieving pain from post-dural puncture headache (PDPH) with potential for fewer complications and lower costs, data from a randomized, controlled trial showed. Additionally, the procedure is less invasive and providers need less training compared with EBP, potentially expanding treatment options for providers and patients, according to results reported in a scientific poster today at the 31st Annual Meeting of the American Academy of Pain Medicine.

Performing EBP requires special training, equipment and personnel not always available to medical providers in remote regions. Furthermore, the benefits of IV cosyntropin therapy could extend to patients with contraindications to EBP, according to the study’s lead author.

“EBPs can be declined by patients as they can be painful and include the risk of a repeat dural puncture,” said Steven Hanling, M.D., an anesthesiologist affiliated with the Naval Medical Center in San Diego, Calif. “EBP cannot be given in some patients, those with coagulation issues, for example, or who have local or systemic infections.” Other complications can include meningitis, spinal hematoma, localized infection and vagal response to the procedure.

Disabling headache from dural puncture is a too-common effect following administration of spinal anesthesia and lumbar puncture. According to the International Headache Society, a PDPH worsens with sitting upright and improves with reclining and is accompanied by neck stiffness, tinnitus, photophobia or nausea. An estimated half of patients develop PDPH following an accidental dural puncture. The headaches develop hours or days after the procedure and are more common with repeated procedures, during pregnancy and with the use of large diameter needles.

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Some patients require no other treatment than analgesics, hydration and bed rest. Persistent PDHP is often treated with EBP, which is generally effective but comes with the aforementioned contraindications and risk for complications. Reported rates of efficacy >96 percent percent with repeated treatment, but permanent cures have been, perhaps, overestimated due to lack of follow up, and efficacy has been reported as low as 61 percent (Taivainen et al, Acta Anaesthesiol Scand 1993;37:702-5). Twice-a-day IV caffeine 300mg is another common treatment for PDHP and has 70 percent efficacy, but is linked to post-treatment seizures.

Study investigators set out to challenge case reports advocating the economy, efficacy and safety of synthetic adrenocorticotropic hormone (ACTH) (1.5 units/kg in LR or NS over 0.5 to 1 hour) as a treatment for PDHP that claims success rates from 70 percent to 95 percent. The collaborative team included scientists from the Naval Medical Center-San Diego and the Naval Medical Center in Portsmouth, Va.

The results showed no significant difference in treatment outcomes between IV cosyntropin therapy and EBP. Study outcomes were self-rated pain and function on scales from 1-10.

For patients in whom PDHP persists, Hanling said, IV cosyntropin, in addition to having benefits for cost and non-invasiveness, may be performed earlier than EBPs, which are reserved until conservative measures have failed, prolonging the patient’s pain and impaired function.

Poster 220 – IV Cosyntropin Versus Epidural Blood Patch for Treatment of Post-Dural Puncture Headache (PDPH)

About AAPM
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