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Nerve Block May Reduce Post-op Pain In Pediatric Chiari

Chiari surgery involves cutting the muscles in the back of the neck, removing a piece of the skull, and removing one or more pieces of the spine, which can be very painful to recover from. Research has shown that adequate post-operative pain management is a key component in determining how long patients remain in the hospital before being discharged, so there is a keen interest in exploring new ideas in this regard.

With this in mind, a group of doctors tried adding a new type of anesthesia to pediatric Chiari surgeries to see if it could reduce post-operative pain. The technique, known as a cervical interfascial plane block, has been shown to be effective in adult spinal surgery but had not been tried with pediatric Chiari surgery. It is considered a regional anesthesia where ultrasound is used to inject a local anesthetic drug between muscles to prevent the nerves that supply the suboccipital region from sending and receiving signals.

The preliminary study involved five children, three under the age of six, and two adolescents. The nerve blocks were given in addition to general anesthesia, and the children underwent standard Chiari decompression surgery. The patients were monitored closely after the injections for any adverse events and their pain levels and narcotic usage were recorded at multiple time points after the surgery. The were no safety issues, adverse events, or negative side effects from the blocks. As expected, the children reported low pain levels and only required small doses of strong pain medicines in the first 12 hours after surgery while the nerve block was in effect. Twenty-four hours after surgery, two of the children reported no pain at all.

To determine if this technique is more effective than existing pain management protocols will require additional studies which compare groups of children who either do or don't receive the regional anesthesia while controlling for other factors such as surgical complications. It would also be interesting, of course, to study the impact this technique can have on adult Chiari surgeries as well.

Sources: Safety and Preliminary Efficacy of Cervical Paraspinal Interfascial Plane Block for Postoperative Pain after Pediatric Chiari Decompression. Pisapia JM, Doherty TM, Grosinger L, Huang A, Muh CR, Abramowicz AE, Xu JL. Healthcare (Basel). 2024 Jul 17;12(14):1426. doi: 10.3390/healthcare12141426. PMID: 39057568

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