

Key Points

- The management of pain during labor may reduce the likelihood of Chiari symptoms worsening
- By decreasing the unpleasant contractions with a combined spinal-epidural (CSE), spinal fluid pressure may also be reduced.
- By using analgesia during labor and anesthesia for cesarean section (CS), the worsening of medical symptoms, including pressure in the skull, can be avoided.
- Each pregnancy case involving Chiari should be individualized so both mother and baby will be safe and healthy before, during, and after delivery.

Source

[Combined spinal-epidural analgesia for laboring parturient with Arnold-Chiari type I malformation: a case report and a review of the literature.](#)
 Choi CK, Tyagaraj K. Case Rep Anesthesiol. 2013;2013:512915

Combined Spinal-Epidural During Childbirth

March 14th, 2014 - Women suffering from persistent chronic pain fear multiple complications when it comes to pregnancy and delivery. The management of pain is difficult to determine for those diagnosed with Chiari because of the increase of pressure within the skull from contractions and the additional stress of delivery. In this case report, Clark K. Choi and Kalpana Tyagaraj confirm the use of a spinal-epidural which manages labor pains for a pregnant woman with a Chiari 1 malformation.

After organizing research from MEDLINE, an online medical database, and reviewing limited information on Arnold Chiari and pregnancy, Choi and Tyagaraj concluded that a combined spinal-epidural (CSE) technique would be used to relieve labor pains of their 17-year-old subject who was diagnosed with Chiari during childhood (7 mm herniation, not decompressed).

Before her planned labor induction took place, an anesthesiologist, a perinatologist, and a neurologist made up her multidisciplinary team. They agreed that the baby would be delivered vaginally with the help of delivery instruments. The combined spinal-epidural, consisting of fentanyl (pain reliever) and bupivacaine (anesthetic), was introduced to her body with a needle between the L3 and L4 vertebra, found in the lower spine. This drug combination was provided hourly; however, 90 minutes before delivery, a larger dose of bupivacaine was injected to minimize the impulse to push.

Throughout the labor, both maternal and fetal blood flow were measured; these levels stayed stable through the first and second stages of labor which lasted nine hours without additional complications. A vacuum-assisted instrument was used to aid the baby's extraction. The patient birthed a healthy girl who weighed 6 pounds 9 ounces (2,995 grams).

Attempts to demonstrate the safety of epidural and spinal techniques during labor is controversial for those diagnosed with Chiari. Accidental dural puncture with an epidural needle can cause an increase of cerebellum herniation, decreased blood flow to the brain, and furthermore, shifting of the brain. However, according to the authors, by decreasing the size of the needle and utilizing an experienced anesthesiologist, the risk can be minimized.

By using analgesia during labor and anesthesia for cesarean section, the worsening of medical symptoms, including pressure in the skull, can be avoided. Preferred guidelines which suggest the use of general anesthesia or analgesia are not determined and many believe those with Chiari cannot use epidural or spinal techniques because of increased pressure within the skull.

In conclusion, Choi and Tyagaraj emphasize how a combined spinal-epidural can be a valid medical alternative for pain relief in patients with Chiari. They also suggest that each pregnancy case involving Chiari should be individualized so both mother and baby will be safe and healthy before, during, and after delivery.



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Ms. Eubanks is a professional writing and researching scholar from Purdue University Northwest. After being diagnosed with a Chiari I Malformation in 2011, she quickly decided that being conquered was not an option—she was committed to fight and pursue a budding love of healthcare/medical writing. Spreading awareness and hope to others battling Chiari is her largest motivator alongside educating others who have not heard about the condition. Reporting for Ideas in Motion Media and tutoring at the Writing Center (Purdue University North Central) has been immensely beneficial to her success as well as all the remarkable individuals who helped her become the composer and analyst she is today.