A Novel Device for Intrathecal Labor Analgesia: A Case Series

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Continuous intrathecal analgesia for labor provides rapid, reliable analgesia, superior flexibility in medication dosing and drug choice, and rapid conversion from labor analgesia to surgical anesthesia. Since the withdrawal of microcatheters from the U.S. market in 1993, the only method for administering continuous intrathecal analgesia has been via a large-bore epidural catheter.

The Wiley Spinal (Epimed; Johnstown, NY) is an intrathecal delivery device consisting of a 23-gauge end-orifice Coude tipped cannula over a 27-gauge pencil-point needle. It is introduced, after identifying the epidural space via loss-of-resistance technique, through a peel-away plastic introducer. The cannula is inserted into the subarachnoid space in much the same way as an intravenous cannula, and then is connected to infusion tubing at the skin via an integrated connector. It is FDA-approved for intermittent intrathecal medication administration for regional anesthesia.

There has been limited experience with the use of the Wiley Spinal for labor analgesia. We describe our experience with this device for both labor analgesia and surgical anesthesia for Cesarean delivery (C/D). Our case series currently includes six patients, of which four had successfully placed intrathecal cannulas. All six had successful identification of both the epidural space (via the right paramedian approach at the L3-4 or L4-5 interspace) and subarachnoid space (with CSF return in spinal needle). Of the four successful placements, one was for scheduled repeat C/D, one was a successful vaginal delivery, and two were placed for induction of labor: one for gestational hypertension and one for maternal congenital cardiac disease; both of these patients eventually underwent C/D. Both of the device failures were in patients scheduled for repeat C/D. One device failure was due to the inability to insert the cannula due to paresthesias, and the second was a straightforward device placement with no CSF flow from the cannula and no anesthetic effect after injection of local anesthetic. Nonfunctioning cannulas were removed immediately, and functioning cannulas were removed shortly after delivery. All four patients with successful device placement were “Completely Satisfied” with their anesthetic, and all four said they would recommend the device. None of the six patients developed postdural puncture headache. We intend to have data on 20 patients prior to the SOAP meeting.