

Successful Peripartum Use of an Intrathecal Morphine Pump

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ABSTRACT

As intrathecal pumps are now widely used for management of pain and spasticity, there are more women of child-bearing age who have intrathecal pumps already implanted at time of conception of their children. There is little in the way of guidelines for how to manage these women, especially those with intrathecal pumps infusing analgesics, throughout pregnancy and after birth. We present a woman who presented at 19 weeks of gestation for consultation of long term pain management, with 3 years of postpartum follow up.

Keywords: Intrathecal Pump; Pain Pump

1. Case Report

We present a 30 year old G1P0 woman with a history of intrathecal pump placed one year previous to her pregnancy for management of chronic chest wall pain after a double mastectomy for breast cancer as well as 7 reconstructive breast surgeries. Early in her pregnancy the pump was infusing morphine at a concentration of 10 mg/ml via a simple continuous infusion at 2.101 mg per day. Throughout the pregnancy her dose was increased to 2.11, to 2.12, 2.13, then finally 2.14 mg per day, with programming increases one month apart. She used a 5% lidocaine patch to the area of chronic pain as well. Concerns regarding migration of the pump, access for the obstetricians in case of caesarean section, as well as neonatal abstinence syndrome, were all discussed with the patient as well as the obstetrician, pain specialist, and maternal fetal medicine.

Although the pump was implanted in the right lower quadrant of her abdomen, it was agreed that there would still be room to perform a caesarean section without difficulty. The patient was aware that a sudden increase in previously well controlled pain may be secondary to mechanical failure of the pump secondary to migration as her abdomen enlarged, and did not encounter such an issue. There was a plan in place to take the newborn immediately to the neonatal intensive care unit for monitoring of possible neonatal abstinence syndrome. Also, the feasibility of either using the intrathecal pump for labor analgesia or inserting a labor epidural below the entry point of the intrathecal catheter was discussed as well, and approved by all parties. The concern for a

possible connection between subarachnoid and epidural spaces would be addressed by slow incremental boluses. However, the patient delivered at an outside hospital and elected not to pursue neuraxial labor analgesia. The child was born vaginally full term without any complications and was watched overnight in the nicu and cleared of any concerns for abstinence syndrome in the period following.

The patient returned 2 weeks postpartum complaining of pubic symphysis pain and underwent an increase to 2.15 mg/day of intrathecal morphine and an MRI showing no significant abnormalities. Hydromorphone 2 mg tablets and ibuprofen were added, and at 6 weeks postpartum, a pubic symphysis injection of lidocaine, bupivacaine, and triamcinolone was given with relief. Her infusion was increased to 2.2 mg/day, and the dose required remained stable for 8 months, after which it was increased to 2.24 mg/day. One year later the patient developed a sudden increase in her pain correlating in time with discovery of a new superficial lesion on her chest. She underwent incremental increases in dosage to 3.0 mg/day, then switched to a mixed bupivacaine-morphine solution infusing at 3.0 mg/day of morphine and bupivacaine 2.25 mg/day. She was encouraged to follow up with oncology and underwent a dye study that proved no mechanical failure in the intrathecal pump. After a negative biopsy of the lesion the pain decreased and became stable.

2. Discussion

More widespread usage of intrathecal pumps in women

of childbearing age will lead to more encounters of peripartum and postpartum management of pain. There are few case reports and no guidelines regarding such an issue, but all reports agree that it is safe and possible to maintain an intrathecal pump throughout pregnancy [1,2]. Although it is also reasonable to place an epidural catheter for labor analgesia after confirming placement of the intrathecal catheter and maintaining strict sterility and slow incremental boluses to avoid accidental intrathecal injection of the epidural analgesic solution or a dural puncture requiring blood patch, our patient chose not to pursue neuraxial analgesia for labor pain. The patient continued to have fairly stable pain control requiring only small increases in dosage of intrathecal morphine until years later, and the pump was proven to be fully functional and operational throughout the pregnancy and thereafter. Therefore, all concerns regarding care of a woman throughout pregnancy were addressed, such as infection, movement of the pump or mechanical failure secondary to enlargement of the abdomen, and labor analgesia. There have been no cases of neonatal abstinence syndrome in our literature review from women with intrathecal morphine pumps. Also, there appears to be minimal maternal breast milk levels of morphine, allow-

ing safe breastfeeding in a woman with an intrathecal morphine pump despite doses of 15 mg/wk to 59.9 mg/wk of intrathecal morphine [3,4].

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