

[2003 Fall A36 Intrinsic spinal cord catheter placement: Implications of new intractable pain in spinal cord injured patients

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Intrathecal catheters may be placed to provide pain relief for intractable conditions. Pain after spinal cord injury can be particularly troublesome and often resistant to traditional treatments. To our knowledge, there have been no reports of spinal cord intraparenchymal catheter placements occurring during direct laminectomy placements. We present the case of a 45 year-old man with a medical history of a T11/T12 burst fracture in 1977, fusion, complete motor loss below T-12, and incomplete sensory level at T10-12 who presented with a 23 year history of dysesthetic pain and burning in his legs. The patient was evaluated for an intrathecal opiate infusion pump implant and had a "successful" epidural trial of morphine. After a fluoroscopically guided catheter provided only a month of relief a laminectomy approach was selected to enable catheter placement above the level of spinal cord lesion. Under general endotracheal anesthesia, the dura was incised and elevated. A stylet catheter was advanced with good CSF flow reported from the distal catheter. The catheter was anchored, tunneled and connected to the implanted pump.

At presentation in our clinic 18 months later the patient's complaint was of severe intractable left flank pain which had been present since the second catheter placement. The physical exam revealed no change in the level of neurologic deficit but the left T6-T12 dermatomal areas of the thorax were hypersensitive and allodynic. At time of presentation he was receiving 24 mg of hydromorphone 50 mg./ml. and 7.5 mg. bupivacaine per day. MRI showed extensive hemosiderin surrounding a catheter intrinsic to the spinal cord. The intraspinal infusion was gradually tapered over 4 weeks. Before surgical removal the pump was turned off, and the patient's flank pain had resolved. The catheter and pump were removed.

No case reports of catheter migration into the spinal cord from subarachnoid sites exist, and one could suggest the possibility that the initial placement of the catheter was into the parenchyma of the spinal cord. Alternatively, it is possible that migration did occur. It is also possible that the patient may have perceived a paresthesia had he been conscious during the initial catheter placement, since it was inserted above his sensory loss level.

The abolition of the patient's thoracic pain as the pump infusion was decreased suggests that a pressure/volume effect may have induced pain symptoms. When pain is unresponsive to increases in medication, this effect should be considered.

Patients with post-spinal cord injury pain are difficult to treat. MRI should be strongly encouraged to aid in the diagnosis when unexplained symptoms occur. Proper care with periprocedural programming evaluations will likely prevent most problems associated with pump patients having MRI exams. Consideration of performing staged procedures wherein catheters may be placed while patients are awake may help prevent complications.

In summary, we present a case of a paraplegic male receiving intrathecal infusion for intractable pain found to have his catheter within the spinal cord. Pain relief was obtained with cessation of infusion. Increased vigilance is warranted when caring for these patients.