Case Report: Catheter-Related Complications in a Patient with an Intrathecal Drug Delivery System (IDDS)

Morgan Karloff, MD[1]
Josue Martes, MD[1]
Mukosolu Ndubisi, MD[1]
Dalia Elmofty, MD[2]
[1] *Schwab Rehabilitation, PM&R*
[2] *University of Chicago, Pain Medicine*

PRESENTER:
Morgan Karloff, MD

INTRODUCTION:

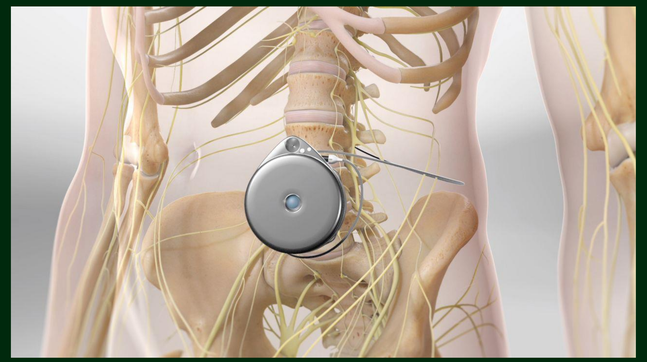
- Intrathecal drug delivery systems (IDDSs) can offer safe, accurate, and efficacious treatment for chronic pain (1).
- Complications are an important consideration.
- IDDS complications can put the patient at risk for injury and increase healthcare costs (2, 3).
- Complication rates vary greatly, most studies report ~20-25% (4).
- Catheter-related malfunctions are the most common hardware complication, ~25% require surgical revision due to catheter failure/poor performance (2,3,5).
- Risk factors for catheter complications are unclear.

CASE

- 83F s/p L3-5 laminectomies with post-laminectomy syndrome transitioned care with IDDS in place x10 years administering intrathecal opioid, catheter tip at T11-12
- Patient developed worsening back/leg pain despite med adjustment (10/10 pain score)
- **SIDE PORT MYELOGRAM:** catheter was disconnected at pump segment
- **REVISION #1**: New pump segment/connector placed > significant pain relief post-op
- Follow up over 2 years > worsening pain despite med adjustment (10/10 pain score). IDDS met ERI
- **REVISION #2:** pump segment was sheared > pump segment replaced > meaningful reduction in pain (5/10 pain score)

Multiple complications from an intrathecal drug delivery system (IDDS) at the pump segment of the catheter

Advancements in catheter design and further investigation into risk factors for catheter-related complications are needed to make IDDSs safer, more reliable, and cost-effective



Take a picture to download the full paper



DISCUSSION

- Case outlines multiple catheter-related complications at the **pump segment.**
- Catheter utilized in our case: two piece system utilizing a sutureless connector > **a one piece system may be a viable alternative (2).**
- Complication rates do not necessarily decrease as implanting physicians gain experience > **catheter design may play a role in malfunction (2).**
- No relation between patient factors with catheter complications such as age, BMI (3).

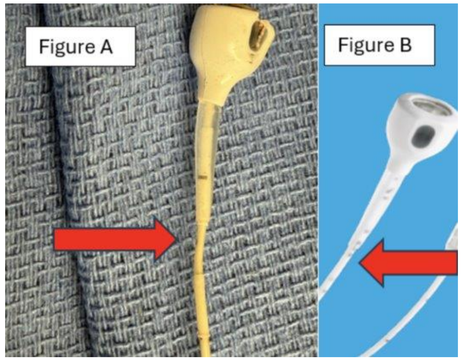


Figure A: Red arrow points to shearing at the pump segment of the catheter

Figure B: Red arrow points to normal pump segment without external shearing

THE UNIVERSITY OF CHICAGO

Sinai Chicago | Schwab Rehabilitation