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Introduction: Intrathecal drug therapy is a treatment option for patients with intractable chronic pain experiencing poor pain control with systemic medications due to side effects or lack of effectiveness. In the cancer survivor population, the intrathecal drug delivery system (IDDS) surgery for pain control must be weighed against infectious complications and delayed wound healing.

Delayed surgical-site infections after implantation are infrequent and may possibly occur from reservoir access for device refills.¹

Case report

A 41-year-old female had an IDDS implanted using fluoroscopy guidance for the management of sarcoma-related pain resistant to systemic opioid therapy. IDDS implantation was completed in a routine fashion.

Follow up:

- One week after surgery, the patient acknowledged significant improvement in pain with some blisters around the incision possibly related to dressing (Figure 1A). Her skin subsequently healed without complications.
- About 3 months after implantation, the patient reported a quarter-sized bump on her back alongside the incision that was tender to the touch, and a lumbar x-ray confirmed the catheter was still at the desired intrathecal level.
- The patient was examined in the clinic, and there was a small fluctuant area in the lower lumbar spine (Figure 1B). The skin over the incision looked dry and pigmented. The patient reported placing herbal medications to reduce pigmentation.
- A lumbar MRI found a small crescent-shaped fluid collection with peripheral enhancement in the subcutaneous soft tissues overlying the lumbar spine; however, her physical exam and laboratory evaluation did not show evidence of infection (Figure 1 C and D).

Resolution:

- The patient was undergoing palliation with adequate pain control, so she preferred close observation.
- She was evaluated by the infectious disease team and given an empiric antibiotic (one week of doxycycline) therapy.
- The patient's symptoms remained stable for two months after the fluid appeared in her lumbar area.
- The swelling improved without further intervention, and the patient continued to use her IDDS for pain management.

Crescent Fluid Collection in the Lumbar Region After Intrathecal Drug Delivery System Implantation

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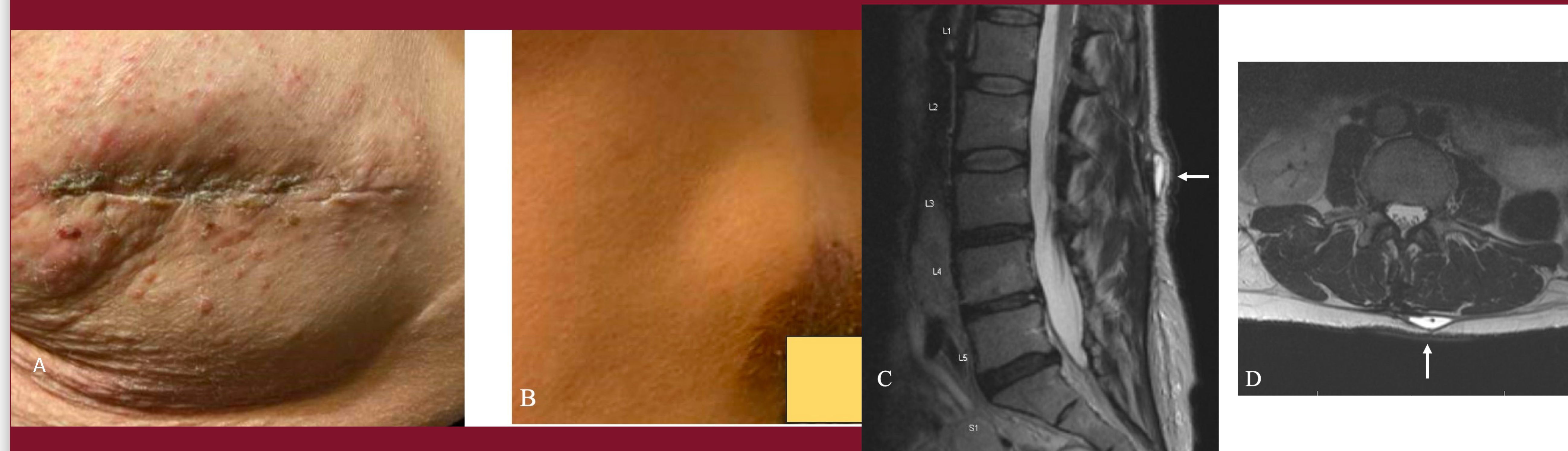


Figure 1

A: Cutaneous reaction to dressing 7 days after IDDS implantation.

B: Tender Swelling more midline lumbar spine 3 months after routine healing.

C and D: MRI lumbar spine (T2 weighted images): small crescentic fluid collection (white arrow) with peripheral enhancement in the subcutaneous soft tissues overlying the paramedian aspect of the left posterior paraspinal muscles at the level of L2-L3, measuring up to 3.2 cm.

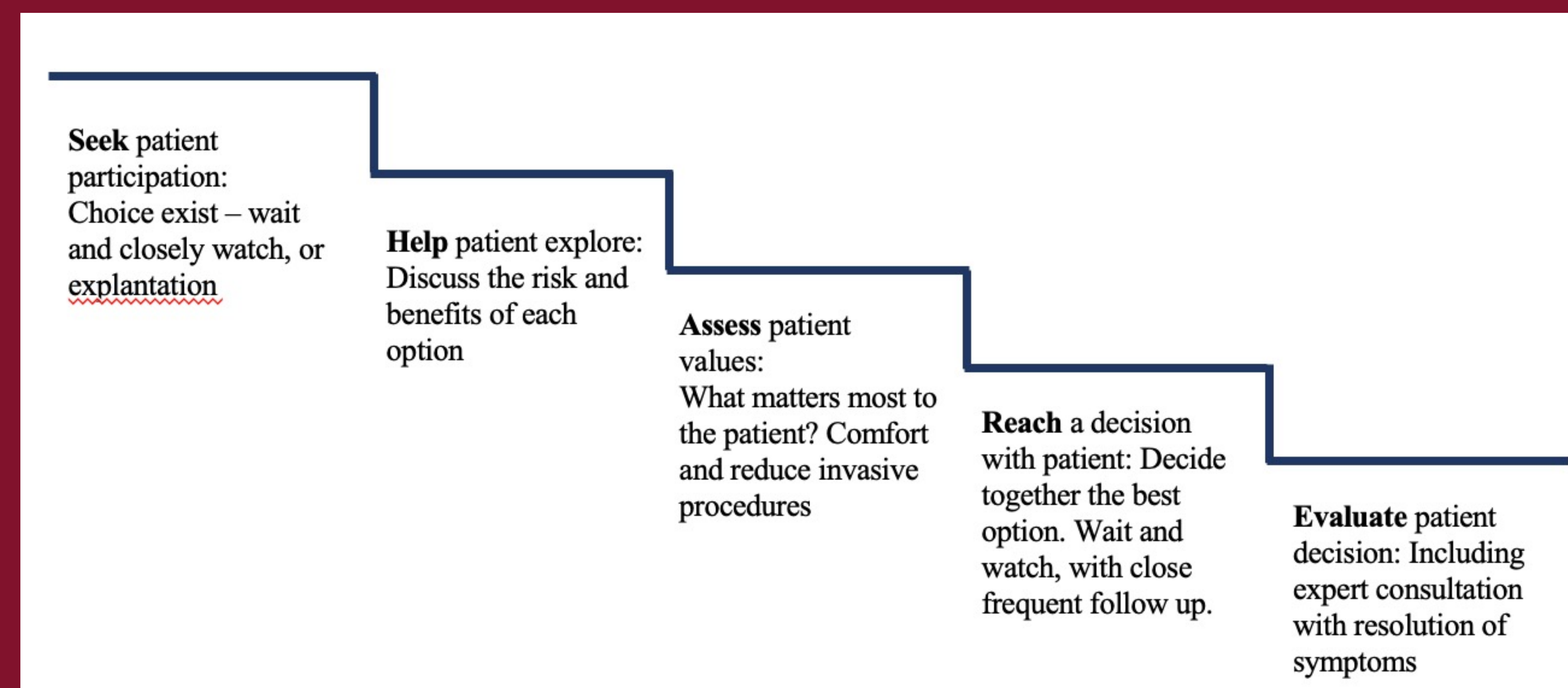


Figure 2: Share approach followed by the care team in the face of possible surgical site infection of IDDS³

Discussion

- Infection complications after IDDS surgery are an important cause of adverse events associated with morbidity and mortality. Rates of infection following IDDS implantation range from 1-4%.² While most infections require device removal, the management of IDDS infections in cancer patients undergoing palliation is a complex issue.
- Managing patient discomfort in a patient with limited expectancy should be weighted against surgical interventions that may make pain management suboptimal. Sterile abscess and allergic reactions should be considered in patients without evidence of infection.
- Imaging tests were performed locally to confirm adequate position and to rule out catheter dislodgement and disconnection.

SHARE Approach

- The patient was medically stable and lived in a remote area. Uncertainty of diagnosis and the treatment implications were shared with the patient
- Aspiration of fluid for diagnosis was discussed with possible risk to the subcutaneous catheter and possible introduction of pathogens during the process.
- The patient was then physically examined in the clinic. Most of her care was accomplished predominantly remotely with virtual visits, minimizing the need for travel.
- The patient's values were assessed, and she voiced that being comfortable was most important to her and agreed to extraction only if the infection proceeded with additional symptoms or clinical deterioration.
- Telehealth, integrated teamwork, home infusion for refills, and coordination with local health facilities made it possible to manage the patient in line with her preferences and values.

Conclusion

Cancer Patients with adequate pain control undergoing palliation should be involved in shared decision-making when there is concern for IDDS infection. Patients should be adequately counseled on wound management after surgery.

References

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3. The SHARE approach. <https://www.ahrq.gov/health-literacy/professional-training/shared-decision/index.html>



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