



BACKGROUND

Intrathecal drug delivery systems have been established as a highly effective treatment modality for chronic cancer-associated and non-cancer pain, as well as spasticity. Intrathecal pump placement involves surgical implantation of a reservoir pump, often tunneled underneath the skin of the abdominal wall, that can be refilled with medication which infuses into the intrathecal space via catheter.

A feared complication of the procedure is pump site infection, thus differentiation between pump pocket infections and other causes of erythema or skin irritation is crucial to prevent unnecessary device explantation.

CASE DESCRIPTION

Patient: 74-year-old man with a history of Amyotrophic Lateral Sclerosis (ALS) underwent implantation of a baclofen intrathecal pump for management of chronic bilateral lower extremity spasticity.

Procedure: An intrathecal catheter was inserted at the L3-4 level and advanced under live fluoroscopy to the T8 level. The catheter was tunneled to connect with a reservoir pump which was implanted in the right lower abdominal quadrant. IV Cefazolin was administered intraoperatively prior to incision. The procedure was uncomplicated, and the patient was discharged with a seven-day course of cefadroxil for surgical prophylaxis.

RESULTS

Post-operative Course

POD 1



Pump reservoir incisional site

POD 37



Mild erythema, granulation tissue noted at patient's skilled nursing facility. Patient self-administered topical triamcinolone, dilute bleach, and ciclopirox

POD 47



Pain Clinic evaluation noted worsened erythema at reservoir site and raised bumps at incision. **Infectious Diseases** was consulted on POD 51 and recommended a course of oral Augmentin and doxycycline for 7 days and to **strongly consider pump explantation** if erythema persisted.

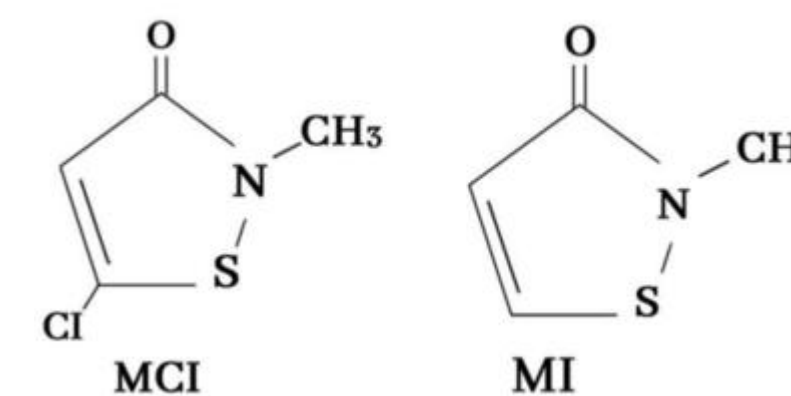
POD 54



Satellite lesions, posterior trunk cutaneous rash.

Given unusual distribution of rash, **Dermatology** referral placed.

Dermatology evaluation revealed patient was using a new brand of body cleansing wipes at his skilled nursing facility containing **Methylchloroisothiazolinone/methylisothiazolinone (MCI/MI), a known contact allergen.**



He was diagnosed with **contact dermatitis** and prescribed a prednisone taper and Tacrolimus ointment twice daily, and recommended to apply CeraVe anti-itch cream to the affected site.

POD 64



Pump reservoir site on POD 64 with resolution of erythema and skin lesions. Weely follow-up appointments thereafter showed ongoing resolution of superficial skin rash.

DISCUSSION

→ Patients who undergo intrathecal pump placement should receive careful evaluation of any skin changes or erythema over pump pocket site postoperatively.

→ **Differentiation between infection and other superficial skin rashes or conditions is crucial to avoid unnecessary pump explantation**

→ A thorough history and physical, evaluation for local or systemic infection, and discussion of topically applied agents or new products is vital

→ Consider expert dermatology consultation in special cases

REFERENCES

- Deer TR, Pope JE, Hayek SM, et al. The Polyanalgesic Consensus Conference (PACC): recommendations for intrathecal drug delivery: guidance for improving safety and mitigating risks. *Neuromodulation*. 2017;20(2):155-176. doi:10.1111/ner.12579
- Deer TR, Hayek SM, Grider JS, et al. The Polyanalgesic Consensus Conference (PACC)®: intrathecal drug delivery guidance on safety and therapy optimization when treating chronic noncancer pain. *Neuromodulation*. 2024;27(7):1107-1139. doi:10.1016/j.neurom.2024.03.003
- Shah N, Di Napoli R, Padalia D. Implantable intrathecal drug delivery system. Updated July 19, 2024. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK538237/>
- Kinch L, Kohan L. A case report of reticular telangiectatic erythema following intrathecal drug delivery system reservoir replacement. *Neuromodulation*. 2020;23(7):1054-1056. doi:10.1111/ner.13166
- Zaccarini CG, et al. Allergic reaction to an intrathecal baclofen pump leading to pump extrusion: a case report. *PM&R*. 2017;9(Suppl 1):S186. Available from: <https://www.sciencedirect.com/science/article/pii/S193414821730905X> [abstract]
- Bernuz B, Assier H, Bissierix H, Thiebaud JB, Rech C, Schnitzler A. Intrathecal baclofen pump: a foreign-body reaction case report and its solution. *J Rehabil Med*. 2012;44(2):184-185. doi:10.2340/16501977-0918
- Lundov MD, Krøngaard T, Menné TL, Johansen JD. Methylisothiazolinone contact allergy: a review. *Br J Dermatol*. 2011 Dec;165(6):1178-82. doi: 10.1111/j.1365-2133.2011.10523.x. Epub 2011 Nov 17. PMID: 21777214.