

Epidural Analgesia Affords Relief of Acute on Chronic Prostate Cancer Pain with Associated Opioid Induced Hyperalgesia

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Introduction

- Opioid induced hyperalgesia (OIH) describes a heightened pain state arising from exposure to opioids and is thought to result from neuroplastic changes in the peripheral and central nervous systems leading to sensitization¹.
- In OIH, the therapeutic response to opioid therapy wanes and pain intensifies with escalation of opioid therapy despite lack of underlying disease progression. This is often accompanied by widespread allodynia unrelated to the initial pain generator¹.
- Patients receiving higher doses of opioids are often more sensitive to pain, and individuals receiving >100 morphine milligram equivalents (MME) daily tend to display a lower pain tolerance^{1,2}.
- Treatment of OIH includes opioid dose reduction, opioid rotation, tapering, and the introduction of NMDA receptor modulators¹.
- This case demonstrates the use of epidural analgesia in managing a pain crisis in a patient with acute on chronic cancer pain and OIH.

Case Report

- A 48 year-old male with high-grade prostate adenocarcinoma (metastatic to pelvic nodes, lung, liver, bone) presented to the ED with worsening lower abdominal and perineal pain, urinary retention, and painful defecation. A prostate biopsy was performed two weeks prior. CTAP showed an irregular cystic lesion within the central prostate consistent with acute prostatic abscess. An enlarged heterogeneous prostate gland and metastatic disease were consistent with known prostate malignancy (image 1).
- PMHx: Depression, prior methamphetamine use (2 years sober), ADHD, chronic cancer pain (on hormonal therapy, high dose opioid managed by outpatient palliative medicine).
- Our acute pain service was consulted for worsening abdominal and perineal pain in the setting of significant opioid escalation. With consideration for mixed nociceptive, neuropathic, and nociplastic pain in the setting of OIH, a ketamine infusion was initiated with initial improvement. Side effects and waning efficacy prompted discontinuation.



Image 1. CTAP demonstrated an acute prostatic abscess with stable metastatic prostate malignancy.

References:

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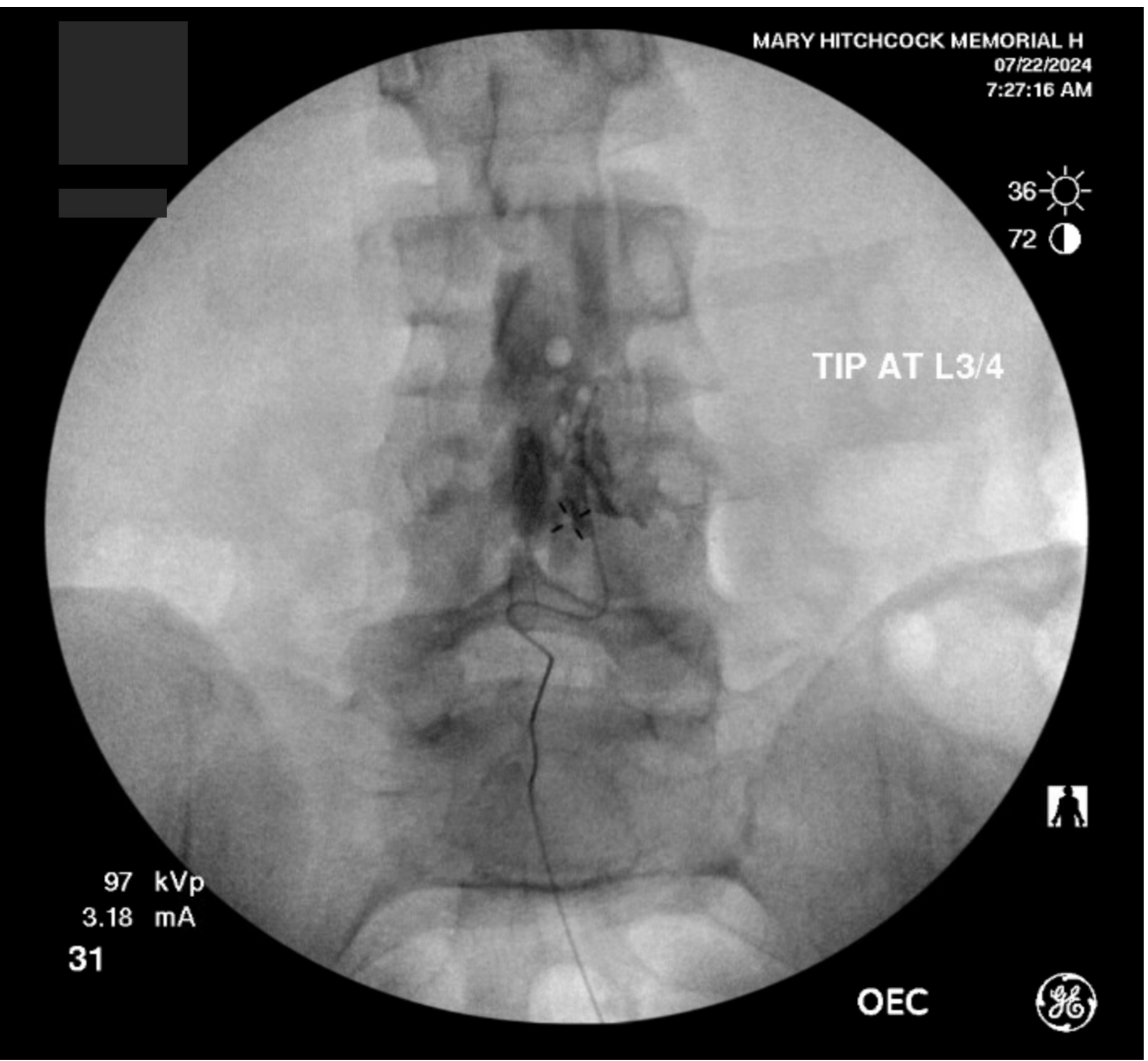


Image 2. Fluoroscopic guided epidural placement confirms L3/L4 catheter with spread of contrast in the epidural space.

- A fluoroscopic guided L3/4 lumbar epidural was placed to decrease systemic opioid consumption, attenuate OIH, allow drug clearance, and promote analgesia (image 2). A continuous solution of epidural hydromorphone 10mcg/mL + bupivacaine 0.125% was administered for seven days with dramatic improvement in analgesia. Daily MME was drastically reduced.
- The infusion limited independent ambulation, but the patient was able to participate in PT/OT and was discharged four days after epidural removal. An intrathecal pump was ultimately placed weeks later as an outpatient. A sustained reduction in preadmission MME was achieved.

