

PALLIATIVE CRYONEUROLYSIS FOR INTRACTABLE PAIN FROM PUDENDAL NERVE & SACRAL GANGLION PLEXUS INVASION OF PELVIC TUMOUR



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INTRODUCTION

Cryoneurolysis is the application of cold temperatures to a peripheral nerve to induce a reversible nerve injury. By selectively targeting the sensory nerves responsible for transmitting pain without causing permanent damage, cryoneurolysis offers an alternative pathway to pain relief with fewer systemic side effects compared to pharmacological agents. When applied judiciously, it presents an opportunity not just for palliation but also for enhancing the patient's functional capacity, potentially allowing them to undergo necessary rehabilitative therapies.

CASE REPORT

We present a 69-year-old female with a history of Metastatic squamous cell carcinoma (SCC) of the vulva presented with intractable pelvic pain.

Brief Disease History

First diagnosed in 2012, the patient had multiple recurrences in 2016 and 2022, for which she underwent multiple surgical resections.

In 2023, she presented with severe right gluteal pain in April. Imaging (CT thoracoabdomen, MRI pelvis) revealed a 3.2cm irregular lesion on the right puborectalis. A subsequent PET scan in June detected lung metastases. An interventional radiology (IR) guided biopsy of the pelvic mass confirmed metastatic SCC. Radiotherapy were deemed unsuitable due to the size of the pelvic mass.

Despite receiving palliative chemotherapy, subsequent imaging showed rapid progression of the mass, which had grown to 8.4cm, with invasion into the sacrum, gluteus maximus, coccyx, posterior vaginal wall, cervix and bowel.

Pain History

The patient had been experiencing a mix of nociceptive and neuropathic perineal/anal pain attributed to the pelvic mass. She described as intense pain in the anal region, exacerbated when seated upright, walking and even simple movements like turning in bed. She had severe pain of 10/10 during physical therapy sessions, limiting ambulation.

Initial pain management included etoricoxib (90mg), tramadol (50mg TDS), panadol, and gabapentin (300mg at night), which provided marginal relief but also caused drowsiness. She required rapidly escalating doses of opioids, eventually receiving: Fentanyl patch at 37mcg/h, and an added baseline of subcutaneous fentanyl (20mcg/h). Frequent additional boluses (up to 8-10 daily) of subcutaneous fentanyl (50mcg Q1hr) for breakthrough pain and Oral pregabalin 150mg BD.

The decision was made for patient to undergo Computer Tomography (CT) guided cryoneurolysis of the Ganglion impar and the Pudendal nerve. The procedure was executed without complications. Immediate post-procedure imaging verified the appropriate location of the cryolesions without any untoward effects on adjacent structures

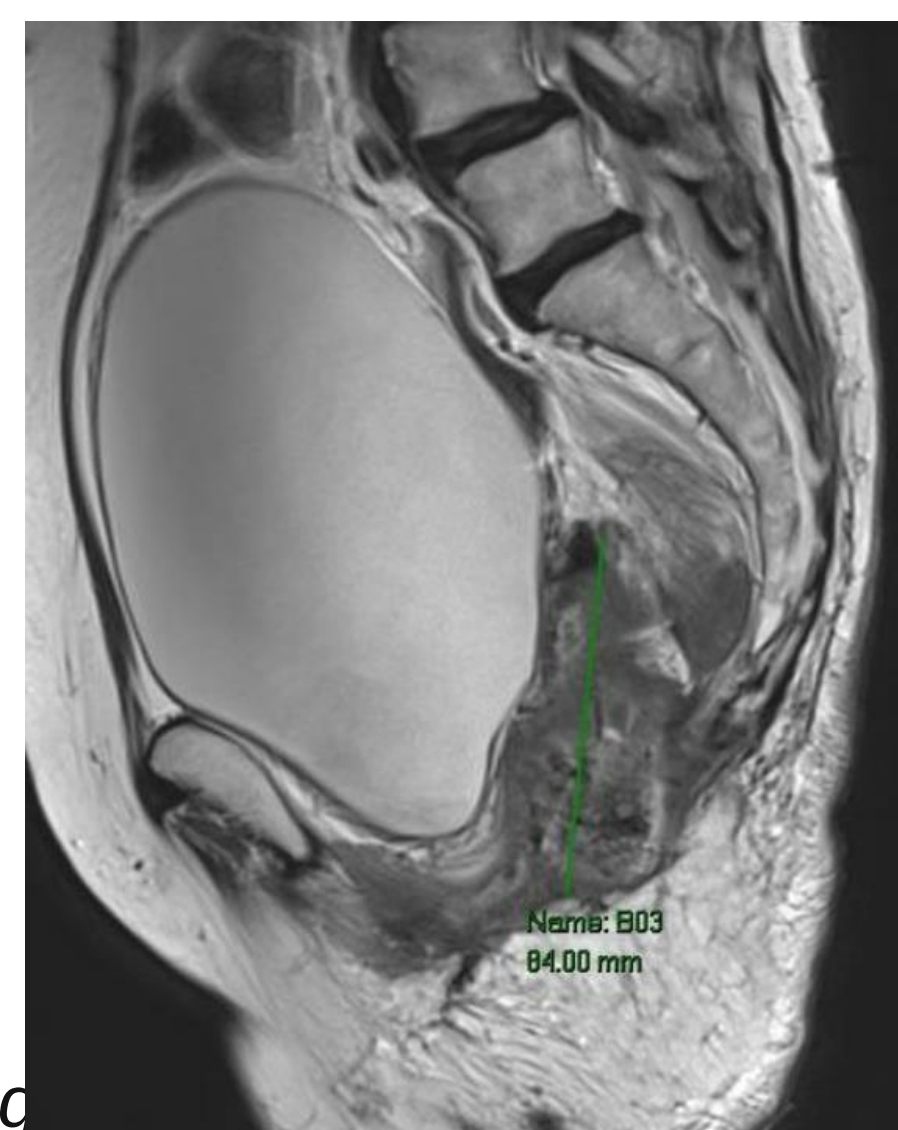
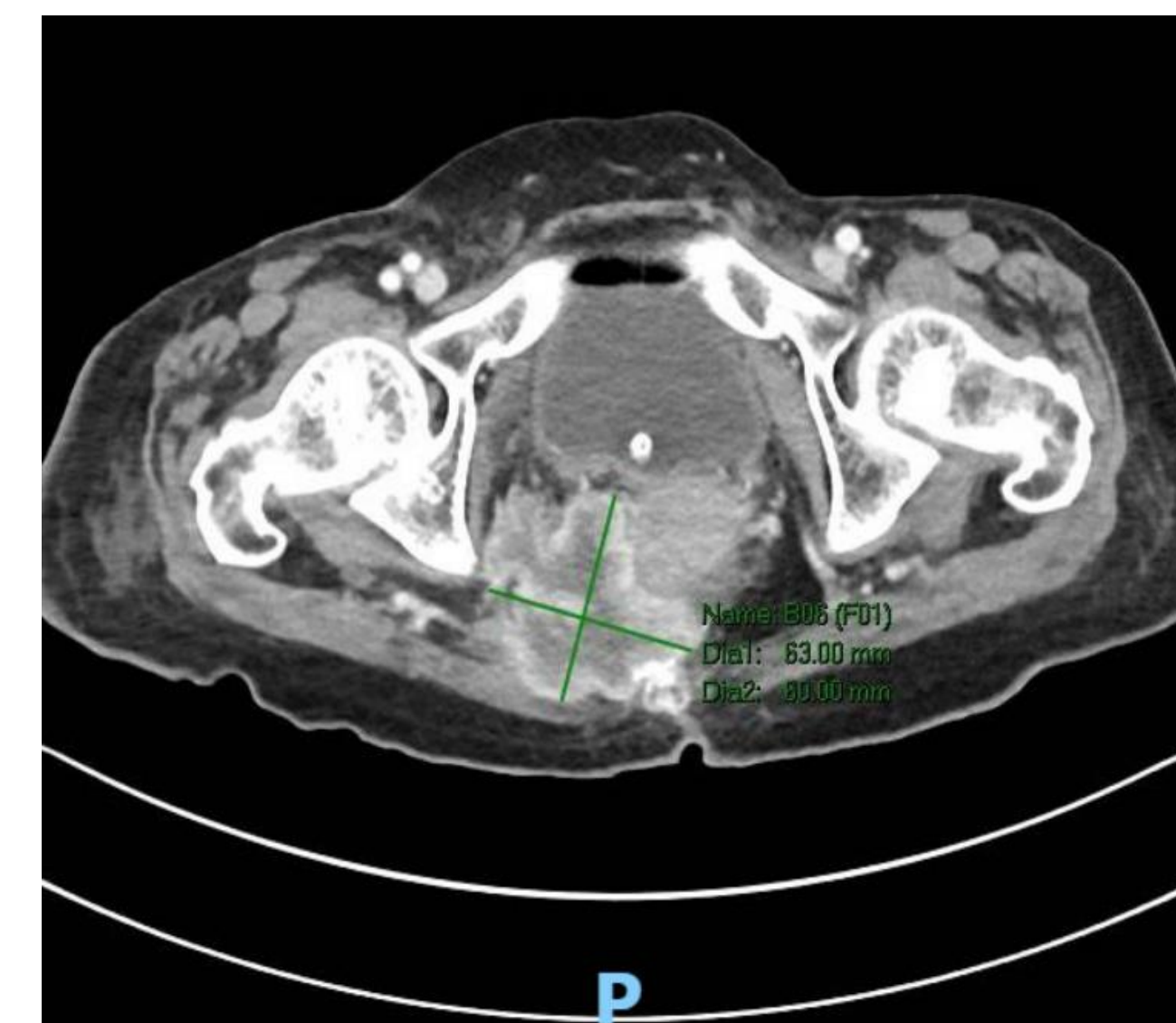


Fig 1
the tumour into the rectum
and coccyx.



invasion of the tumour into the sacrum
and Gluteus Maximus

Follow-up

A structured evaluation was undertaken at 24 hours, 72 hours, one week and 2 weeks post-procedure. At each point, the patient's self-reported pain scores showcased a marked reduction. Post-procedure, her pain scores consistently declined from 10/10 to 3-5/10 during movement and 1-2/10 at rest, representing an approximately 80% decrease in perceived pain.

Functional Improvement: The patient's ability to perform activities that were previously restricted due to pain, such as ambulation and sitting upright, significantly improved, to a level where she was receptive to rehabilitative sessions.

Analgesic Consumption: Post-procedure, her opioid requirements dropped by over 50%, and other adjunct pain medications were significantly tapered or discontinued.

Adverse Effects: There were no recorded adverse reactions directly attributable to the procedure, and her previous systemic side effects from opioids, like drowsiness, also alleviated.

Follow-up Evaluations: On subsequent check-ups, the pain relief achieved remained consistent, with the patient maintaining a reduced need for analgesics.

CONCLUSION

The cryoneurolysis procedure exhibited a clear and substantial ameliorative effect on the patient's pelvic pain, enhancing her functional capacity and decreasing her dependence on systemic analgesics.

By solely targeting the offending sensory nerves, cryoneurolysis offers localized pain relief with minimized systemic side effects. Particularly in the realm of pelvic cancer pain, where conventional treatments might be inadequate, cryoneurolysis presents a potential adjunctive strategy, promoting both palliation and functional improvement.