

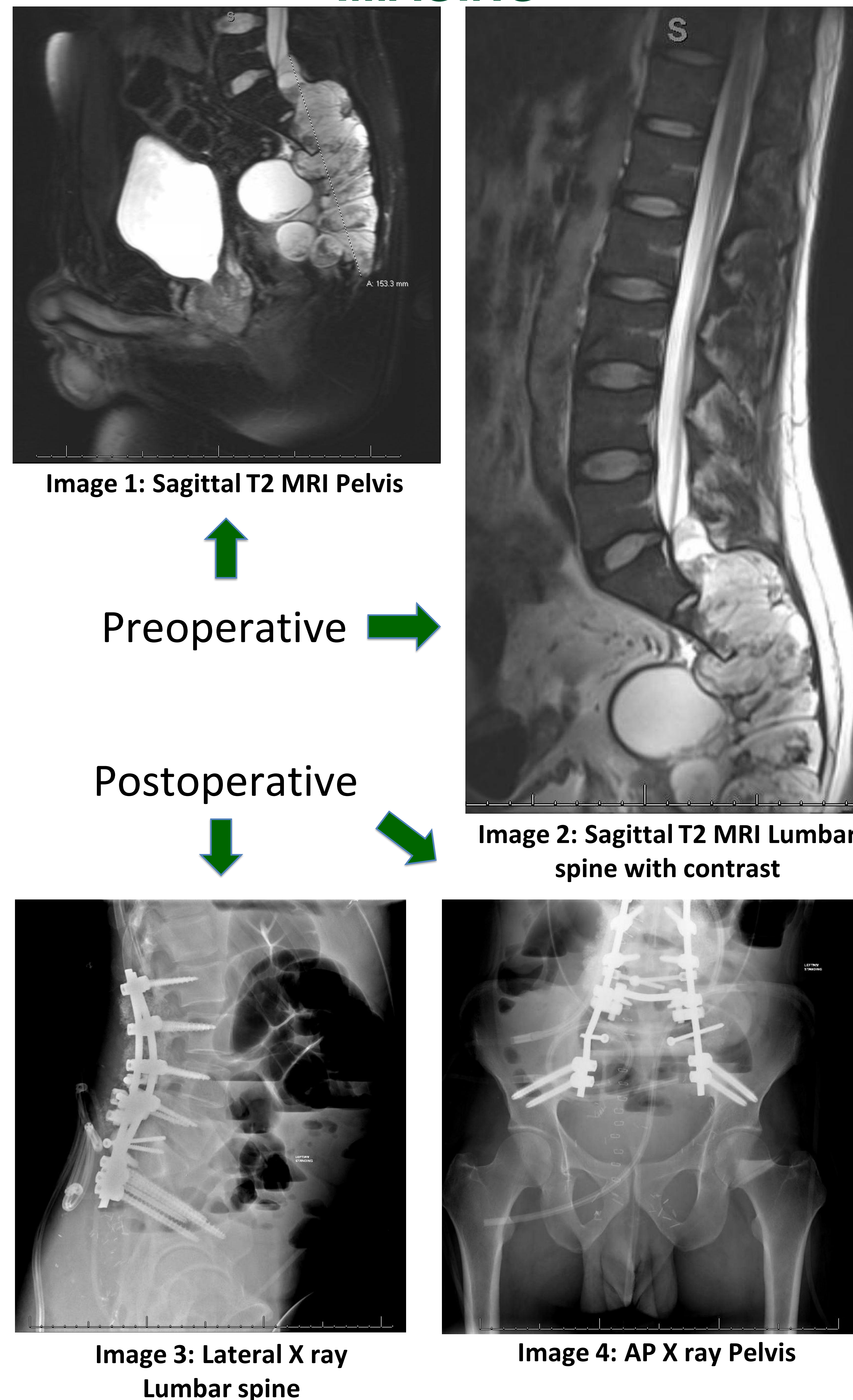
INTRODUCTION

Chordomas are rare, aggressive neoplasms that arise from remnants of the notochord. They account for approximately 2% of all bone cancers but they are the most common primary malignant neoplasm of the sacrum. The tumor typically occurs in the axial skeleton, and in 50% of cases it is localized to the sacrum. Patients commonly present with vague lower back pain, often with radicular symptoms down either lower extremity and/or weakness. The standard treatment includes wide surgical resection. The excision is often challenging due to the proximity of the sacral chordoma to the neural structures. Nerve root sacrifice and damage are common complications and often result in urinary incontinence, lower extremity weakness, and different-to-treat postoperative neuropathic pain.

CASE DESCRIPTION

A 28-year-old male was diagnosed with a sacral chordoma after presenting with right lower extremity weakness and neuropathy. He subsequently underwent an L4-L5 laminectomy, total sacrectomy with en-block proctectomy, and permanent end colostomy. Postoperatively he developed urinary retention, left foot drop, and a severe left lower extremity neuropathy, which was initially treated with gabapentin 900mg three times daily. On admission to the acute inpatient rehabilitation unit he was started on amitriptyline 25mg at bedtime due to persistent pain. On hospital day #8, despite optimal dosing of gabapentin, due to inadequate pain control the decision was made to transition to pregabalin 150mg three times daily and discontinue gabapentin. Furthermore, his bedtime dose of amitriptyline was increased to 50mg. Finally on hospital day #10 he reached the maximum dose of pregabalin 200mg three times daily. Despite multiple lines of medications the patient continued to have severe left lower extremity pain upon discharge from acute inpatient rehabilitation, even after having been on maximized regimens of both gabapentin and pregabalin.

IMAGING



DISCUSSION

Neuropathic pain following oncological surgery, particularly after sacrectomy, can occur in approximately 52% of patients with sacral chordoma. Gabapentinoids and tricyclic antidepressants (TCAs) are often used as first-line treatment. However, as evident in this case, despite optimum doses of gabapentin, pregabalin, and amitriptyline, his pain remained challenging to treat. In addressing cancer-related neuropathic pain, evidence has shown that treatment-resistant pain has responded positively to analgesic combinations. Adding other classes of medications, such as SNRIs (duloxetine), and opioids (morphine and/or oxycodone) has shown to improve pain, overall function and quality of life. In particular, studies have shown that adding a gabapentinoid or TCA to opioids have shown better outcomes than either class by itself. In addition, having any type of antidepressant (TCA or SNRI) along with either of the anticonvulsants gabapentin or pregabalin was superior than either anticonvulsant agent alone. Given this patient's poor response to more conservative therapy, he would likely benefit from addition of an opiate to his current regimen, or discontinuation of amitriptyline along with initiation of duloxetine as another alternative. Ultimately he will require long-term, close follow up with cancer rehabilitation.

CONCLUSIONS

Neuropathic pain secondary to cancer, in particular post-sacrectomy in the setting of chordoma, can be debilitating and difficult to treat. In initially approaching cancer-related neuropathic pain during acute inpatient rehabilitation, clinicians should consider first-line regimens that include gabapentinoids or TCAs. If pain persists despite maximum therapy, physiatrists should pursue additional options such as duloxetine and/or opiates as analgesic combinations have been shown to have better outcomes. It is important to note that desired analgesia may not be possible during a short inpatient stay and patients should be referred to cancer rehabilitation and/or pain management specialists in order to optimize pain control and long term quality of life

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