

Psoas Malignant Syndrome Mimicking Lymphedema: A Case Report

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Introduction

Psoas Malignant Syndrome is characterized by proximal lumbosacral plexopathy, painful hip flexion on the same side, and pathological malignancy affecting the ipsilateral psoas major muscle by either direct metastasis or extra-nodal para-aortic extension (1). Malignant infiltration of the psoas results in neuropathic pain caused by lumbosacral plexopathy, somatic nociceptive pain, and muscle spasms. The usual pattern of referred pain is towards the groin, thigh, and front abdominal wall, which can be attributed to L1-4 involvement as well as risk of extension into the spinal canal, potentially causing compression of the epidural spinal cord (1,2,3,4).

In this case, we report a rare manifestation of prostate cancer metastasizing to the bone and infiltrating the psoas muscle.

Case Presentation

Patient is a 66 year old male with a past medical history of prostate cancer s/p multiple hormonal therapies and steroids who presented with severe left hip and leg pain and left leg edema. On physical exam, patient had decreased strength on the left especially with hip flexion. MRI demonstrated neoplastic infiltration of the left psoas muscle, bulky para-aortic adenopathy, bulky adenopathy in the left hemipelvis as well as significant unilateral intramuscular edema within the left psoas, iliopsoas, medial and anterior thigh muscles suspicious for denervation secondary to Malignant Psoas Syndrome. Multiple osseous metastases within the lumbar spine and pelvis were also seen. Patient was restarted on chemotherapy and was continued on pain management consisting of fentanyl patches and oxycodone.

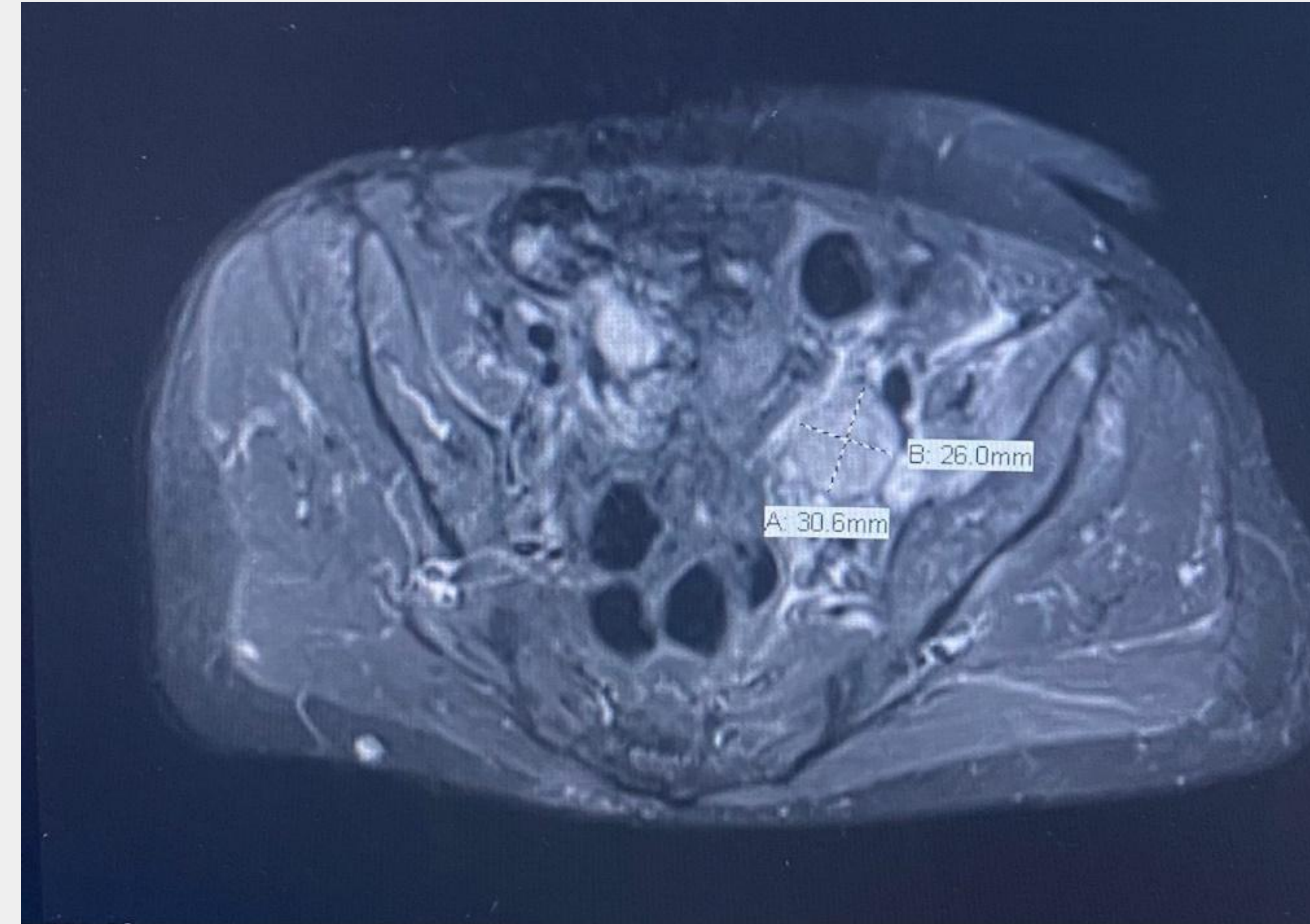


Figure 1: Neoplastic infiltration of metastatic prostate cancer into the left psoas measuring 30.6mm x 26.0mm in diameter

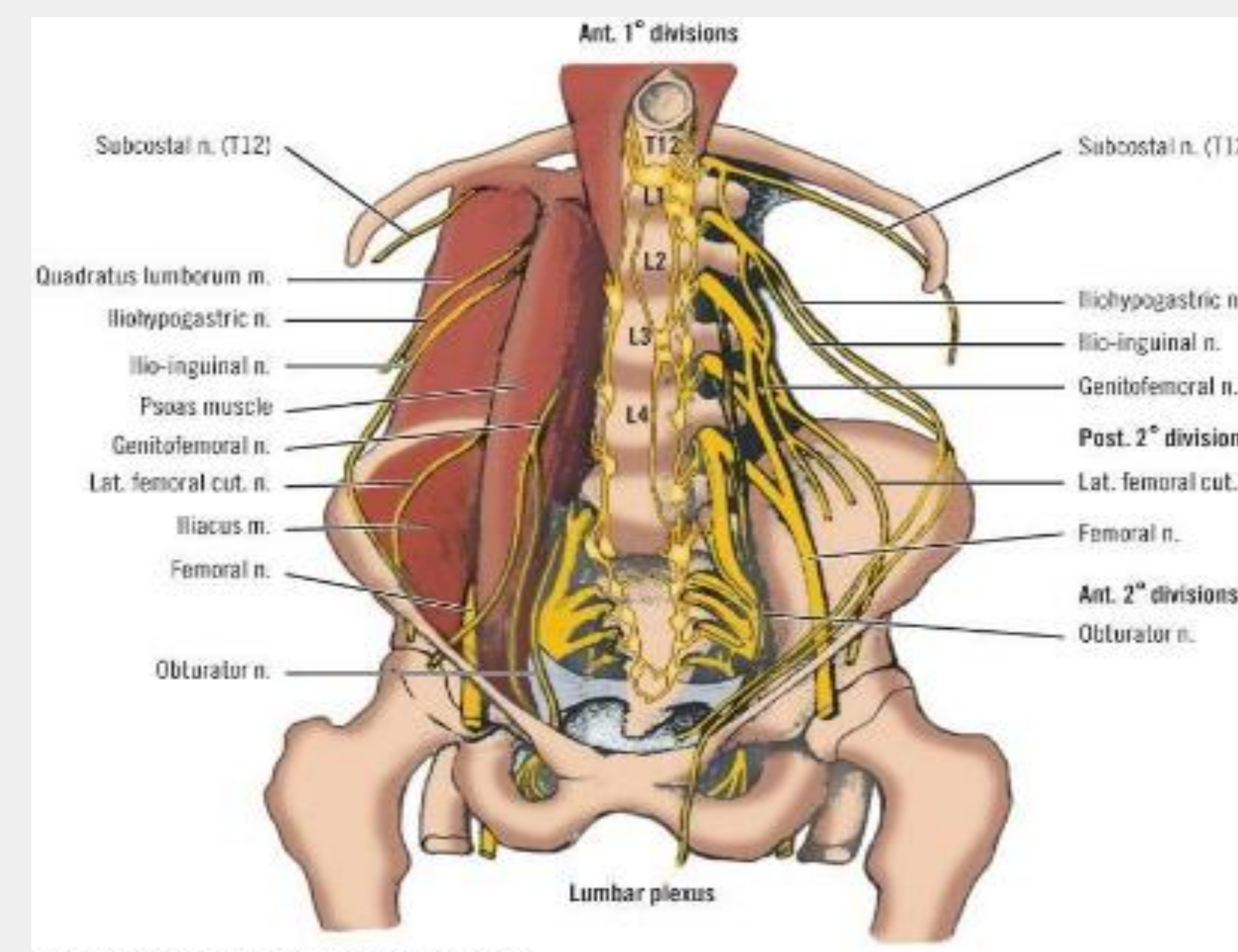


Figure 2: The lumbosacral plexus. In Psoas Malignant Syndrome, prostate cancer often spreads via the lumbosacral plexus to the psoas muscle

Discussion

Prostate cancer is second only to lung cancer as the leading cause of cancer-related deaths in men (5). Skeletal metastasis is an infrequent event with most tumors arising from pulmonary, gastrointestinal, and urological sources. The current annual incidence of metastatic prostate cancer in the United States is slightly less than 19/100,000 (1).

Although hematogenous spread of other malignancies is most common to the lungs and liver, 90 percent of prostatic metastases involve the spine, with the lumbar spine affected three times more often than the cervical spine. In rare circumstances, prostate cancer might first manifest as a lumbosacral plexopathy resulting from direct spread within the pelvic region, notably through the psoas muscle characterized as psoas malignant syndrome. Patients with this syndrome typically experience intense pain originating from the lower back and radiating down to the legs, eventually leading to muscle weakness.

The effectiveness of opioid analgesics in addressing neuropathic pain remains uncertain, although there's some indication of their potential for neuropathic cancer pain relief. Medications like antiepileptics and tricyclic antidepressants, such as carbamazepine, sodium valproate, amitriptyline, and gabapentin are used for neuropathic pain management. Anti-inflammatory agents, whether steroidal or nonsteroidal, can also be used to mitigate peritumoral inflammatory edema and pain, retain motor function, and improve outcome after treatment.

In cases where a tumor is responsive or likely to respond to chemotherapy, the consideration of palliative chemotherapy as a means to control pain through tumor size reduction should be evaluated based on the patient's functional condition and physiological reserves (1,2,3,4). Opioid medication serves as the primary approach for managing severe pain. In hormone-naïve patients, corticosteroids and androgen ablation therapy is used followed by radiotherapy if patient's are non-responsive. The treatment of spinal cord compression secondary to psoas malignant syndrome generally improves motor strength and function in patients with metastatic prostate cancer. However, there is an increased risk of recurrence at the same site or a new site.

Conclusion

Psoas Malignant Syndrome can be a challenging condition to manage and interventional pain management techniques have emerged as effective options for alleviating the discomfort and improving the quality of life for individuals suffering from this condition. Further randomized controlled trials with cancer medication, corticosteroids and/or neuromodulation should be conducted to better understand how to manage pain related to psoas malignant syndrome and other neoplastic lumbosacral plexopathies. MPS should remain on the differential whenever a patient complains of muscular pain.



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References**