

Diagnosis and management of retroperitoneal leiomyoma: a case report

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Introduction: Leiomyomas are benign tumors of smooth muscle cells. If benign, they can be further categorized into two subtypes: leiomyomas of somatic soft tissue and retroperitoneal-abdominal leiomyomas. While uterine leiomyomas are encountered frequently, retroperitoneal/abdominal leiomyomas are exceedingly rare, especially among male patients.

Case Presentation: Patient is a 69-year-old male who initially presented for evaluation of bilateral lower quadrant pain, described as sharp and “belt-like” in distribution. Patient also experienced a sensation to void and defecate, but the inability to do so. He was diagnosed with diverticulitis and initially treated with oral antibiotics. Subsequent imaging showed a large soft tissue mass in the retroperitoneal cavity, measuring approximately 20 cm, with superior extension into the left upper quadrant and possible involvement of the iliac vessels and bladder. A PET-CT did not demonstrate significant activity. Core needle biopsy demonstrated features typical of benign leiomyomas, with no evidence of cytologic atypia or areas of necrosis. The patient’s symptoms and tumor size were concerning for leiomyosarcoma, and surgical resection was recommended. At the time of retroperitoneal mass excision, the tumor was found to not involve surrounding structures. Pathology demonstrated spindle cells resembling normal smooth muscle cells, as well as evidence of increased mitotic activity. Immunohistochemistry was positive for desmin and focally reactive to estrogen receptor. Significant findings microscopically include small Mullerian remnants staining positive for estrogen receptor and PAX8, suggesting similarities to gynecologic leiomyoma. Final pathology diagnosis was a smooth muscle tumor of uncertain malignant potential and surveillance was recommended. At 6-month follow-up, patient was doing well without evidence of recurrence.

Conclusion: Retroperitoneal/abdominal leiomyomas in male patients are rare and diagnostically challenging. While histologically similar to benign gynecologic leiomyomas, these tumors require further evaluation for malignant potential, including resection and follow up management. Differentiation from leiomyosarcomas through radiologic and histologic findings should be further studied.

Keywords: Retroperitoneal, Leiomyoma