

## A Rare Cause of Obstructive Uropathy: Retroperitoneal Desmoid-Type Fibromatosis in A Young Postpartum Woman

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### Abstract

### Case Report

**Background:** Desmoid-type fibromatosis (DTF) is a rare benign fibroblastic neoplasm characterized by local aggressiveness and a high risk of recurrence despite the absence of metastatic potential. Retroperitoneal localization is exceptionally uncommon and may lead to delayed diagnosis because of nonspecific symptoms. **Case Presentation:** We report the case of a 30-year-old woman presenting two years after vaginal delivery with right-sided lumbar pain and a palpable lumbar mass. Imaging studies revealed a large right retroperitoneal mass measuring 13 × 9 × 13 cm, infiltrating the psoas and quadratus lumborum muscles and causing extrinsic compression of the right ureter with severe ureterohydronephrosis. Magnetic resonance imaging demonstrated a heterogeneous soft-tissue lesion with infiltration of adjacent musculature and displacement of bowel loops without invasion. Following multidisciplinary team discussion, the patient underwent radical surgical resection. Intraoperatively, the tumor was found to encase the right ureter and adhere to surrounding structures, including the hepatic flexure, transverse colon, and diaphragm. Histopathological examination confirmed desmoid-type fibromatosis. Postoperative recovery was complicated by surgical site infection, successfully managed with antibiotics and local wound care. **Conclusion:** Retroperitoneal desmoid-type fibromatosis should be considered in the differential diagnosis of retroperitoneal masses causing ureteral obstruction, particularly in young women with a recent history of pregnancy or childbirth. Complete surgical excision remains the cornerstone of treatment in resectable symptomatic lesions, although emerging targeted therapies are expanding therapeutic options.

**Keywords:** Desmoid-type fibromatosis; Retroperitoneal tumor; Ureteral obstruction; Hydronephrosis; Postpartum; Case report; Desmoid tumor; Fibromatosis.

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## INTRODUCTION

Desmoid-type fibromatosis (DTF) is a rare benign mesenchymal tumor arising from fibroblastic and myofibroblastic proliferation within the musculoaponeurotic stroma. Despite the absence of metastatic potential, it exhibits locally aggressive behavior and a high risk of recurrence. [1,2]

DTF may occur at any age but predominantly affects young adults, with a marked female predominance. Its annual incidence is estimated at 2.4-4.3 cases per million. [3]

It is classified into extra-abdominal, abdominal wall, and intra-abdominal forms, while retroperitoneal localization remains uncommon. The tumor may arise sporadically or in association with familial adenomatous

polyposis, particularly in Gardner syndrome, and has also been linked to trauma, hormonal factors, and pregnancy. [4,5]

Clinical presentation is often insidious, especially in intra-abdominal forms, with symptoms related to compression or infiltration of adjacent structures, like gastrointestinal, renal, neurological or vascular manifestations.

We report a rare case of retroperitoneal DTF with ureteral involvement following childbirth, highlighting the diagnostic challenges of this unusual presentation.

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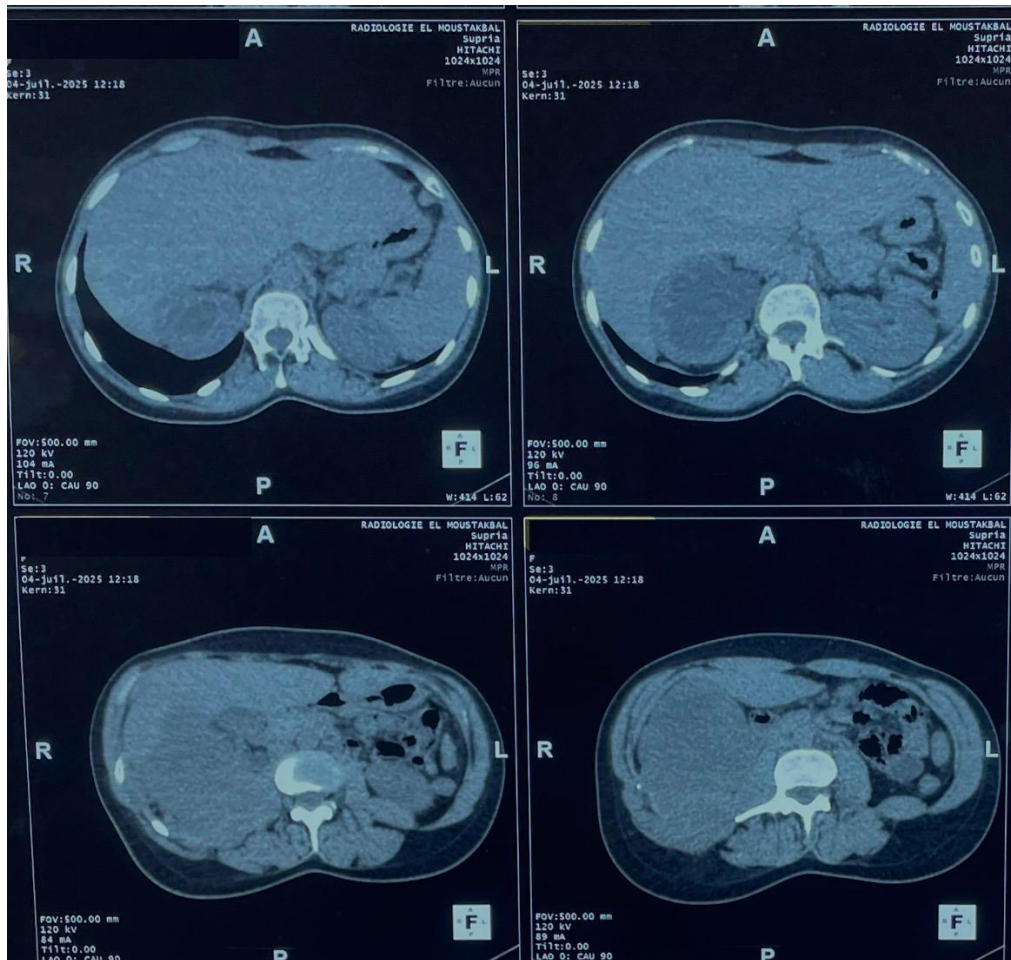
## CASE REPORT

A 30-year-old woman, mother of one child delivered vaginally two years earlier with a history of dystocic labor, presented with right-sided lower back pain. Her medical history was significant for thyroid disease, for which she had undergone total thyroidectomy followed by radioactive iodine therapy. She was currently in remission and maintained on thyroid hormone replacement therapy.

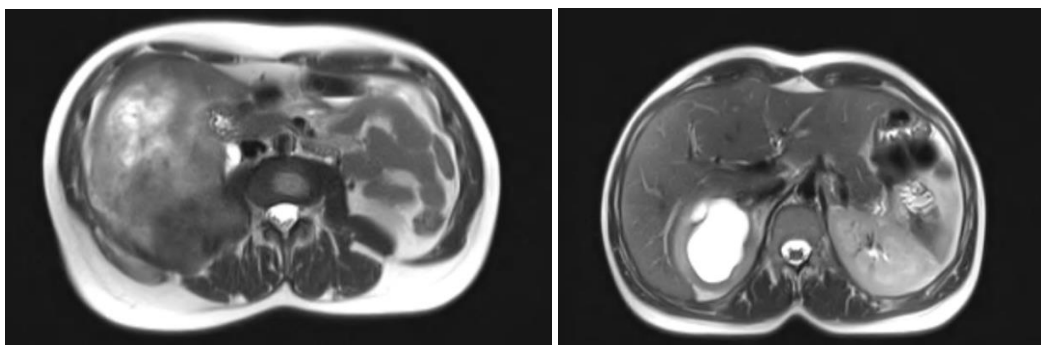
On physical examination, right-sided lumbar tenderness was noted, with a palpable lumbar mass (positive lumbar contact).

Blood tests revealed no significant abnormalities, with the exception of a modest rise in C-reactive protein to 58 mg/L.

Abdominal computed tomography revealed a large right retroperitoneal mass measuring  $13 \times 9 \times 13$  cm, located in the infrarenal region. The lesion demonstrated infiltration of the psoas and quadratus lumborum muscles and exerted extrinsic compression on the right ureter, resulting in severe right-sided ureter hydronephrosis.



**Abdominal MRI revealed a large right retroperitoneal soft-tissue mass, characterized by T1-hypointensity and heterogeneous T2-hyperintensity, with peripheral enhancement and central necrosis**

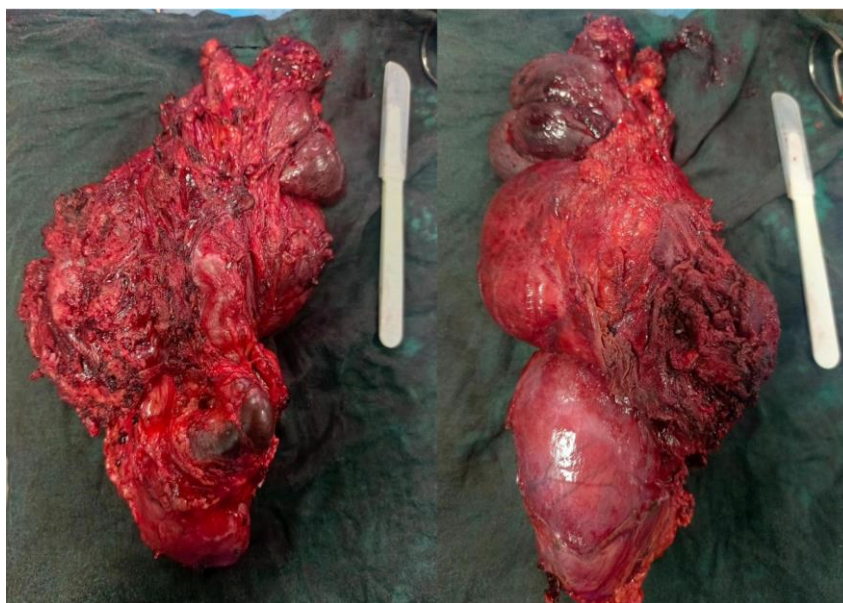


The lesion infiltrates the psoas, quadratus lumborum, and posterior paravertebral muscles. Superiorly, it abuts the inferior pole of the right kidney with a preserved cleavage plane. Inferiorly, it displaces bowel loops without evidence of invasion. Medially, the mass causes extrinsic compression and displacement of the right ureter, resulting in severe upstream hydronephrosis.

Following MDT consensus, the patient underwent radical tumor resection. Intraoperatively, a

large mass was identified with dense adhesions to the right kidney and the posterior lumbar musculature. The tumor was found to be encasing the right ureter and was adherent to both the hepatic flexure, the transverse colon and the diaphragm requiring careful dissection to achieve clearance.

Tumor resection and a diverting colostomy were performed, and histopathology confirmed a desmoid mesenchymal tumor.



The postoperative course was complicated by a surgical site infection, which was successfully managed with intravenous antibiotics and local wound care. The patient was discharged on postoperative day 22. Bowel continuity was subsequently restored three months later, following an uneventful recovery period.

## DISCUSSION

Desmoid-type fibromatosis is a mesenchymal neoplasm consisting of fibroblastic and myofibroblastic proliferation. Though non-metastatic, these tumors are notorious for local infiltration [6]. Their clinical classification typically follows their anatomical distribution: extra-abdominal (commonly affecting the shoulder girdle, trunk, or extremities), abdominal wall, or intra-abdominal [7]. Notably, while intra-abdominal desmoids are frequent among the desmoid family (up to 69%), they remain a rare finding in the retroperitoneum, comprising less than 1% of such masses.

Though desmoid fibromatosis (DF) is the most frequent primary mesenteric tumor, it remains epidemiologically rare, with an annual incidence of approximately 3.7 cases per million. It represents a mere 0.03% of all systemic neoplasms and less than 3% of soft tissue tumors. While it can manifest across all demographics, the peak prevalence occurs between the

third and fifth decades of life. A subtle female predilection is noted, likely linked to hormonal influences [3]. A genetic link was reported to the Gardner syndrome or Familial Adenomatous Polyposis [8]

Mechanical triggers, including prior trauma or surgery, are implicated in 19–63% of cases, with half of these appearing within four years of the initial insult [3,9]. Many cases were also reported following postpartum period. [10]

Symptoms of DF are site-dependent and typically arise from the compression or invasion of adjacent structures [11]. In the intra-abdominal subtype, patients often present with pain (abdominal, pelvic, or referred) only after the lesion reaches a size sufficient to cause ureteric obstruction or intestinal sequelae [12]. Though non-specific symptoms like nausea and weight loss may complicate the clinical picture, the definitive diagnosis rests on histopathology.

DF is characterized by locally aggressive fibroblastic growth but is differentiated from more malignant sarcomas by its lack of cellular atypia and mitotic figures. While its infiltrative nature often involves major blood vessels, its lack of metastatic

potential maintains its classification as a benign, albeit locally destructive, tumor. [13]

CT is the standard tool for assessing desmoid tumors, its appearance varies based on the relative proportions of collagen, spindle cells, and myxoid tissue. Although myxoid-rich tumors often present as hypoattenuating masses, they rarely exhibit necrosis or calcification. [14]

MRI offers enhanced diagnostic precision through superior soft-tissue resolution: T2-weighted sequences demonstrate hyperintensity in myxoid-dominant areas and hypointensity in collagen-dense regions. Given the potential for radiological mimicry of more aggressive malignancies like pleomorphic sarcoma or lymphoma, the diagnosis of a desmoid tumor relies exclusively on the microscopic and immunohistochemical analysis of the surgical specimen [15]

The definitive therapeutic objective for desmoid-type fibromatosis remains a radical R0 resection, characterized by microscopically negative margins [16]. This approach is particularly effective for localized, surgically accessible lesions. [17] To ensure complete oncological clearance and mitigate the risk of local failure, any involved adjacent structures or intraperitoneal organs must be resected en bloc. Suboptimal or compromised margins are the primary predictors of local relapse; indeed, for abdominal wall variants, the reported recurrence rate fluctuates between 20% and 30%, with most cases manifesting within the first six months post-excision [18,19]. Despite this aggressive local behavior, the tumor remains benign in its biological classification, with no documented metastatic potential.

While surgical extirpation is the cornerstone of treatment, the role of systemic and adjuvant therapies remains a subject of ongoing clinical evaluation [20,21].

Historically, c-AMP modulators have yielded inconsistent results due to the tumor's inherently low mitotic index [22].

In contrast, hormonal modulation—specifically with Tamoxifen—has demonstrated clinical utility in arresting fibroblast proliferation, particularly in patients of reproductive age where fertility preservation and low toxicity are paramount [23,24].

Systemic chemotherapy and anti-inflammatory regimens are typically reserved for unresectable or highly infiltrative cases, their efficacy as monotherapy is often limited. Conversely, radiotherapy has emerged as a critical adjunct for managing incomplete resections; comparative data suggest that a multimodal strategy combining surgery with adjuvant radiation significantly

enhances local control rates compared to surgical intervention alone. [25]

The management of desmoid fibromatosis (DF) has transitioned toward targeted molecular therapies. Tyrosine kinase inhibitors (TKIs)—including sorafenib, pazopanib, and imatinib—have shown efficacy in stabilizing progressive disease. [26]

Most notably, the approval of nirogacestat, a gamma-secretase inhibitor, represents a milestone as the first systemic agent specifically indicated for DF. By inhibiting the gamma-secretase enzyme, nirogacestat modulates essential pathways to mesenchymal tumor proliferation, extending significantly progression-free survival (PFS) while improving patient-reported quality of life and reducing tumor-associated pain. This targeted approach offers a robust non-surgical alternative for managing both disease progression and symptomatic burden. [27]

## CONCLUSION

Retroperitoneal desmoid-type fibromatosis is an exceptionally rare entity that may present with nonspecific symptoms and mimic more aggressive retroperitoneal malignancies, leading to diagnostic delay. In young women, particularly during the postpartum period or in the presence of potential hormonal and mechanical triggering factors, desmoid tumors should be considered in the differential diagnosis of retroperitoneal masses associated with compressive complications such as ureteral obstruction. Imaging plays a crucial role in lesion characterization and assessment of local extension, while definitive diagnosis relies on histopathological examination. Complete surgical resection with negative margins remains the mainstay of treatment for symptomatic and resectable disease, although targeted systemic therapies are emerging as promising alternatives in unresectable or recurrent cases. Long-term surveillance is essential given the high risk of local recurrence.

## REFERENCES

1. G.L. Destri, M.J. Ferraro, M. Calabrini, M. Pennisi, G. Magro, Desmoid-type fibromatosis of the mesentery: report of a sporadic case with emphasis on differential diagnostic problems, *Case Rep. Med.* 2014 (2014) 850180.
2. B. Kasper, P. Ströbel, P. Hohenberger, Desmoid tumors: clinical features and treatment options for advanced disease, *Oncologist* 16 (2011) 682–693.
3. J.J. Reitamo, P. Häyry, E. Nykyri, E. Saxén, The desmoid tumor I. Incidence, sex-, age- and anatomical distribution in the Finnish population, *Am. J. Clin. Pathol.* 77 (1982) 665–673.
4. Stickar T, Berriel JA, Polo JL, *et al.*, Intra-abdominal desmoid tumor with an unusual origin in the intestinal wall: case report. *Arq Bras Cir Dig* 2018; 31:6–31.

5. Wang Z, Wu J, Lv A, *et al.*, En bloc resection for intra-abdominal/retroperitoneal desmoid-type fibromatosis with adjacent organ involvement: a case series and literature review. *Biosci Trends* 2018; 12:620–626.
6. George V, Tammisetti VS, Surabhi VR, *et al.*, Chronic fibrosing conditions in abdominal imaging. *Radiographics* 2013; 33:1053–80.
7. Shinagare AB, Ramaiya NH, Jagannathan JP, *et al.*, A to Z of desmoid tumors. *Am J Roentgenol* 2011;197: W1008–14.
8. Latchford AR, Sturt NJ, Neale K, Rogers PA, Phillips RK. A 10-year review of surgery for desmoid disease associated with familial adenomatous polyposis. *Br J Surg.* 2006; 93:1258–64.
9. Zenzri Y, Yahyaoui Y, Charfi L, Ghodhbeni Z, Letaief F, Ayadi M, *et al.*, The Management of desmoid tumors: a retrospective study of 30 cases. *International Journal of Surgical Oncology.* 2020 Jul 18; 2020:9197216.
10. Robinson WA, McMillan C, Kendall A, Pearlman N. Desmoid tumors in pregnant and postpartum women. *Cancers (Basel).* 2012 Feb 21;4(1):184-92.
11. Casillas J, Sais GJ, Greve JL, *et al.*, Imaging of intra- and extraabdominal desmoid tumors. *Radiographics* 1991; 11:959–68.
12. Simon NL, Mazur MT, Shingleton HM. Pelvic fibromatosis: an unusual gynecologic tumor. *Obstet Gynecol* 1985; 65:767–9.
13. ] V. Kumar, A.K. Abbas, N. Fausto, J.C. Aster, Robbins and Cotran Pathologic Basis of Disease, 8th ed., Saunders Elsevier, St. Louis, MO, 2010.
14. Rosa F, Martinetti C, Piscopo F, Buccicardi D, Schettini D, Neumaier CE, *et al.*, Multimodality imaging features of desmoid tumors: a head-to-toe spectrum. *Insights Imaging* 25 sept 2020 ;11(1):103.
15. Kim J-h, Moon KC, Park S-W, *et al.*, Desmoid-type fibromatosis in the head and neck: CT and MR imaging characteristics. *Neuroradiology* 2013; 55:351-359.
16. 8] R.A. Agha, A.J. Fowler, A. Saetta, I. Barai, S. Rajmohan, D.P. Orgill, *et al.*, The SCARE Statement: Consensus-based surgical case report guidelines, *Int. J. Surg.* 34 (2016) 180–186
17. Alman B, Attia S, Baumgarten C, *et al.*, The management of desmoid tumours: a joint global consensus-based guideline approach for adult and paediatric patients. *European Journal of Cancer* 2020 ;127 :96-107.
18. Zhang R, Hu H, Zhang J, *et al.*, Desmoid tumor of the abdominal wall: a case report. *Asian J Surg* 2021; 44:1592–3.
19. Lahat G, Nachmany I, Itzkowitz E, Abu-Abeid S, Barazovsky E, Merimsky O, *et al.*,
20. Surgery for sporadic abdominal desmoid tumor: is low/no recurrence an achievable goal. *Isr. Med. Assoc. J.* 1 juill 2009;11(7):398–402.
21. Tsukamoto S, Takahama T, Mavrogenis AF, Tanaka Y, Tanaka Y, Errani C. Clinical outcomes of medical treatments for progressive desmoid tumors following active surveillance: a systematic review. *Musculoskelet. Surg.* 1 mars 2023 ;107(1) :7–18.
22. Mukherjee A, Malcolm A, Hunt DA, *et al.*, Pelvic fibromatosis (desmoid)treatment with steroids and tamoxifen. *Br J Urol* 1995; 75:559–60.
23. Mukherjee A, Malcolm A, Hunt DA, *et al.*, Pelvic fibromatosis (desmoid)treatment with steroids and tamoxifen. *Br J Urol* 1995; 75:559–60.
24. Choudhury H, Abidoye O. A Desmoid Tumor Responding to Systemic Therapy with Tamoxifen and Sulindac. *Cureus.* 2023 Mar 3;15(3): e35723
25. Nuyttens JJ, Rust PF, Thomas CR, Turrisi AT. Surgery versus radiation therapy for patients with aggressive fibromatosis or desmoid tumors: a comparative review of 22 articles. *Cancer* 1 avr 2000 ;88(7):1517–23.
26. Sparber-Sauer M, Orbach D, Navid F, Hettmer S, Skapek S, Corradini N, Casanova M, Weiss A, Schwab M, Ferrari A. Rationale for the use of tyrosine kinase inhibitors in the treatment of paediatric desmoid-type fibromatosis. *Br J Cancer.* 2021 May;124(10):1637-1646
27. B. Kasper, N. Federman, P. Reichardt, S. Attia, A. Lim, V. Amoruccio, *et al.*, Efficacy and safety of nirogacestat in patients with desmoid tumor and adenomatous polyposis coli (APC) mutation: phase 3 DeFi analyses, *JCO.* juin 42(16\_suppl): 11558-11558 (2024).