

## Case Report

## Abdominal Wall Desmoid Tumor -A Mass after Maternity: A Case Report

Dr Gandeti Kiran Kumar, M.S<sup>1\*</sup>, Dr. Aithagani Aruna, M.S<sup>2</sup>, Dr Nuukala Geethika<sup>2</sup>, Dr Kondeti Pavani<sup>2</sup>, Dr Nutulapati Sree Sravya<sup>2</sup>

<sup>1</sup>Professor, Department of General Surgery, Guntur Medical College, Guntur, Andhra Pradesh, India

<sup>2</sup>Department of General Surgery, Guntur Medical College, Guntur, Andhra Pradesh, India

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**Abstract: Introduction:** Desmoid tumors are rare, benign fibroblastic neoplasms characterized by locally aggressive behavior and high recurrence rates. Abdominal wall desmoid tumors show a strong association with pregnancy and prior abdominal surgery. **Case Presentation:** A 28-year-old female presented with a gradually progressive anterior abdominal wall mass one year following childbirth. She had a history of laparoscopic intraperitoneal onlay mesh (IPOM) repair for umbilical hernia performed during an undetected early pregnancy. Imaging revealed a large intramuscular mass arising from the rectus abdominis muscle. The patient underwent wide local excision of tumor with abdominal wall reconstruction using composite mesh. Histopathology confirmed intra-abdominal fibromatosis with negative surgical margins. **Clinical Discussion:** Hormonal influences related to pregnancy and antecedent surgical trauma are recognized contributors to desmoid tumor development. Complete surgical excision remains the primary treatment for symptomatic abdominal wall desmoid tumors, although recurrence rates remain significant. **Conclusion:** This case highlights the multifactorial pathogenesis of abdominal wall desmoid tumors in the postpartum period and underscores the importance of early diagnosis, complete surgical excision, and long-term follow-up.

**Keywords:** Desmoid Tumor, Abdominal Wall Fibromatosis, Pregnancy, Abdominal Wall Reconstruction, Case Report.

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### 1. INTRODUCTION

Desmoid tumors, also referred to as aggressive fibromatosis, are rare soft-tissue tumors arising from musculoaponeurotic structures. Despite their benign histology and lack of metastatic potential, these tumors are locally invasive and associated with high recurrence rates. They may occur sporadically or in association with familial adenomatous polyposis, particularly Gardner syndrome.

Abdominal wall desmoid tumors are most frequently observed in young women, especially during or after pregnancy, suggesting a hormonal influence. Prior abdominal surgery is another well-recognized predisposing factor. We report a rare case of a large abdominal wall desmoid tumor presenting after maternity in a patient with a history of laparoscopic hernia repair.

Desmoid tumors (DTs), are very rare with an estimated incidence of 2–5 cases per million of inhabitants in European countries. DTs can develop in any musculoaponeurotic structure and they may be located at virtually any anatomical site. The principal

sites of involvement for extra-abdominal fibromatosis are the shoulder, chest wall and back, thigh and head and neck region. Intra-abdominal fibromatosis arises in the mesentery or pelvis while abdominal tumors arise from musculoaponeurotic structures of the abdominal wall, especially the rectus and internal oblique muscles and their fascial coverings.

Desmoid tumors share many similar clinical and radiographic features with other abdominal wall masses and have varied compositions making the diagnosis difficult with imaging and clinical history alone. Despite their aggressive local infiltration, desmoid tumors lack a metastatic potential. However, because of this local infiltration and compression of surrounding structures, a high recurrence rate exists and in anatomic locations with restricted access to surgical resection desmoid tumors can lead to death.

Especially in patients with familial adenomatous polyposis (FAP) undergoing colectomy desmoid tumors are the leading cause of morbidity and mortality.

\*Corresponding Author: Dr Gandeti Kiran Kumar

Professor, Department of General Surgery, Guntur Medical College, Guntur, Andhra Pradesh, India

Desmoid tumors are benign myofibroblastic neoplasms originating from the muscle aponeurosis and classified as deep fibromatoses. They constitute 3% of all soft tissue tumors and 0.03% of all neoplasms.

## 2. CASE PRESENTATION

A 28-year-old female presented with a painless, progressively enlarging mass over the anterior abdominal wall for one year. The swelling involved the right hypochondriac, epigastric, and umbilical regions. There were no associated gastrointestinal or constitutional symptoms.

In her history she reported 3 pregnancies with spontaneous birth. She had previously undergone

laparoscopic IPOM repair for an umbilical hernia 16 months prior, during which she had an undetected pregnancy of approximately three months' gestation. She delivered one year before presentation and subsequently underwent tubectomy.

On examination, a single non-tender firm immobile horizontally oval lump of size 14 x 12 CM located in the right hypochondriac, epigastric and umbilical region which is extended laterally up to 2 cm lateral to right mid-clavicular line medially up to midline superiorly 5 cm from right costal margin inferiorly at the level of umbilicus noted.



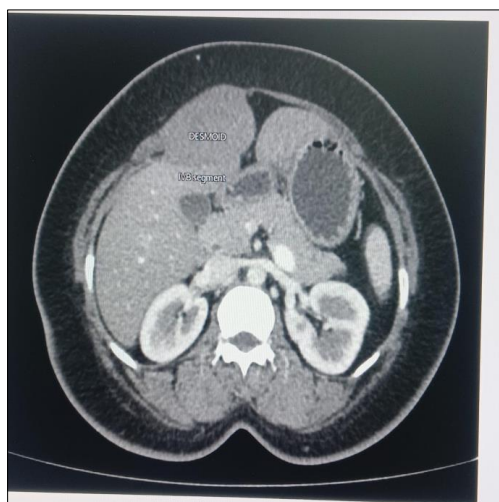
### Investigations

Postnatal ultrasonography of the abdomen revealed a 6.3 x 4.1 cm lesion in the right hypochondrium involving the superficial muscular planes of the anterior abdominal wall with internal vascularity, suggestive of a nerve sheath tumor.

Contrast-enhanced computed tomography of the abdomen demonstrated a 10.5 x 6.5 cm heterogeneously enhancing mass arising from the rectus

abdominis muscle with loss of fat planes and close approximation to segment IVb of the liver. Differential diagnoses included organized hematoma and neoplastic etiology.

Magnetic resonance imaging confirmed an intramuscular lesion of the anterior abdominal wall with ill-defined margins abutting the right lobe of the liver, favoring a soft-tissue tumor.

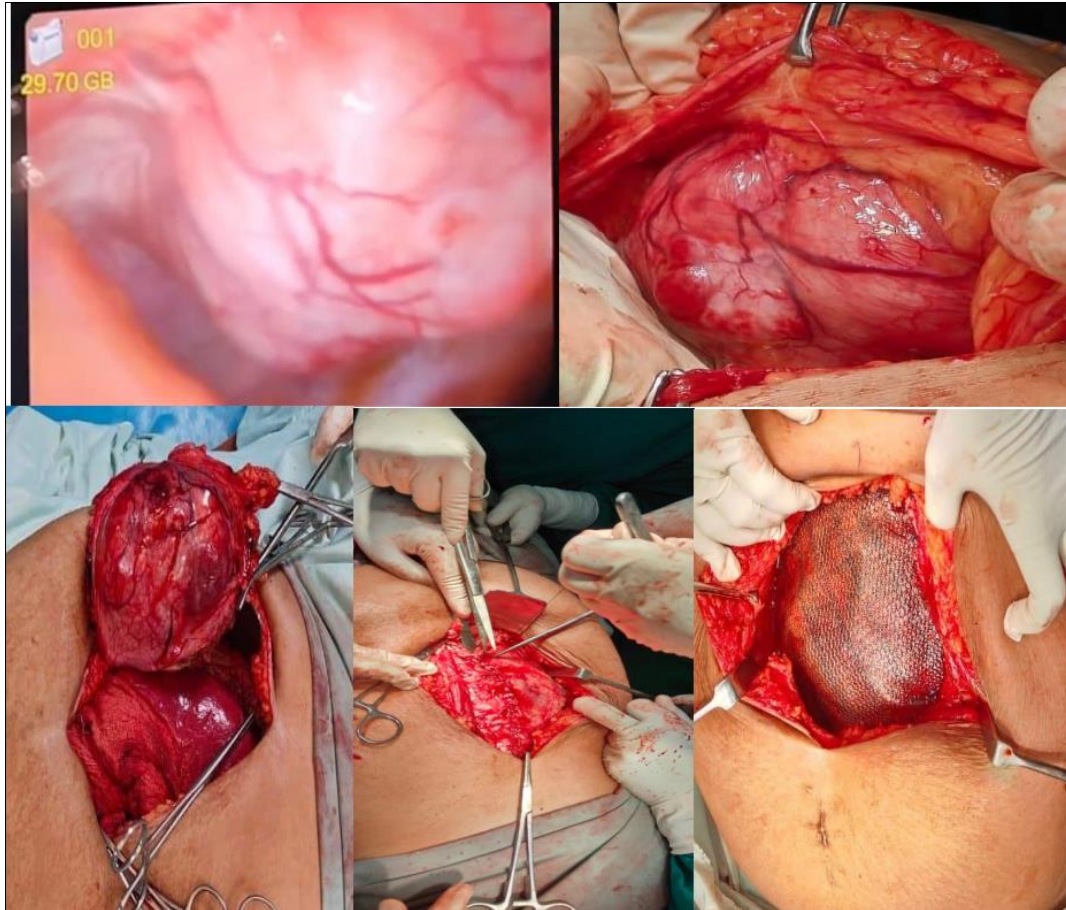


### Management

Diagnostic laparoscopy revealed a large lobulated tumor measuring approximately 15 × 12 × 6 cm arising from the right anterior abdominal wall with significant neovascularity. The previously placed IPOM

mesh was noted approximately 4 cm away from the lesion, with no intraperitoneal involvement.

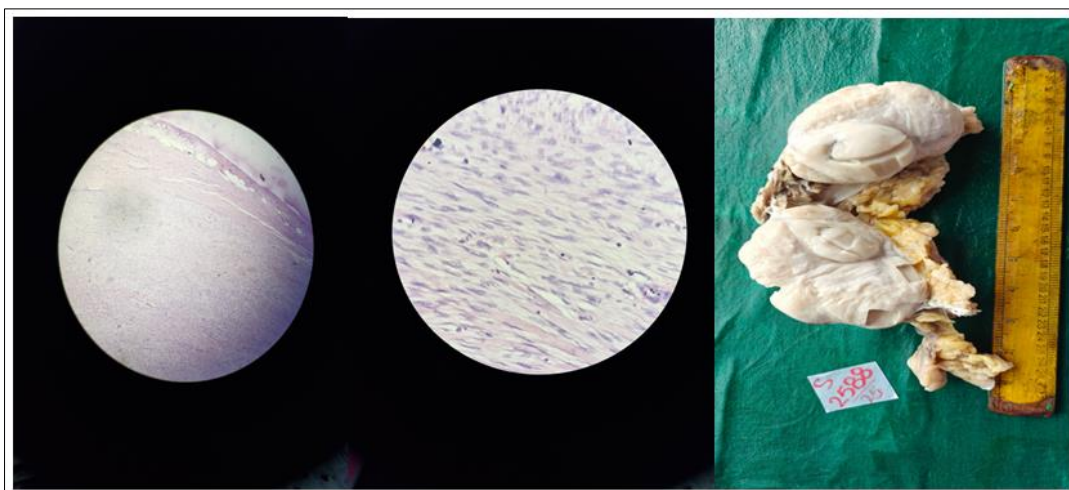
The patient underwent laparotomy with wide local excision of the tumor, followed by abdominal wall reconstruction using composite mesh.



### 5. Histopathology

Intraoperative frozen section analysis showed a benign spindle cell tumor with negative margins. Final histopathological examination confirmed intra-

abdominal fibromatosis (desmoid tumor). Immunohistochemistry was negative for estrogen receptors.



## 6. Outcome and Follow-Up

The postoperative course was uneventful. The patient was discharged in stable condition and advised

long-term follow-up due to the known risk of recurrence associated with desmoid tumors.



## 7. DISCUSSION

Desmoid tumors of the abdominal wall are strongly associated with pregnancy, likely due to hormonal stimulation and mechanical stretching of the musculoaponeurotic structures. Surgical trauma, as seen in this case following laparoscopic hernia repair, may further contribute to tumor development.

Imaging with CT and MRI is essential for assessing tumor extent and planning surgical management. While conservative and medical therapies are increasingly considered in selected cases, surgery remains the treatment of choice for large, symptomatic, or progressive abdominal wall desmoid tumors.

Despite complete excision, recurrence rates range from 20% to 40%, emphasizing the need for prolonged surveillance. Adjuvant radiotherapy or systemic therapy is reserved for recurrent or unresectable disease.

## 8. CONCLUSION

Abdominal wall desmoid tumors in the postpartum period represent a rare but important diagnostic consideration in women with prior abdominal surgery. A combination of hormonal influence and surgical trauma likely contributes to tumor pathogenesis. Complete surgical excision with negative margins and meticulous abdominal wall reconstruction offers optimal outcomes, with long-term follow-up being essential.

## DECLARATIONS

**Ethical Approval:** Not required for single case reports.

**Consent:** Written informed consent was obtained from the patient for publication of this case report and accompanying images.

**Conflict of Interest:** None declared.

**Funding:** No external funding was received for this work.

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