

Uterine Smooth Muscle Tumor of Unknown Malignant Potential (STUMP): Diagnostic and Management Challenges

DR ARFA BIN SAQIB, FELLOW- GYNAECOLOGICAL ONCOLOGY, SURGICAL ONCOLOGY;

DR MARIA ASLAM, , FELLOW- GYNAECOLOGICAL ONCOLOGY, SURGICAL ONCOLOGY;

DR ANAM RIAZ, SURGICAL ONCOLOGY;

DR M. USMAN, SURGICAL ONCOLOGY;

DR AAMIR ALI SYED, SURGICAL ONCOLOGY;

DR SHAHID KHATTAK, SURGICAL ONCOLOGY;

Shaukat Khanum Memorial Cancer Hospital and Research Centre, Radiation Oncology, Lahore, Pakistan.

BACKGROUND

Uterine smooth muscle tumors of uncertain malignant potential (STUMP) are rare neoplasms that lie between benign leiomyomas and malignant leiomyosarcomas.

They present a major diagnostic dilemma due to overlapping histological and imaging features and pose management challenges in balancing oncologic safety and fertility preservation.

OBJECTIVE

To report a rare case of STUMP in a young nulliparous woman and highlight the diagnostic ambiguity, imaging features, surgical management, and post-treatment surveillance plan.

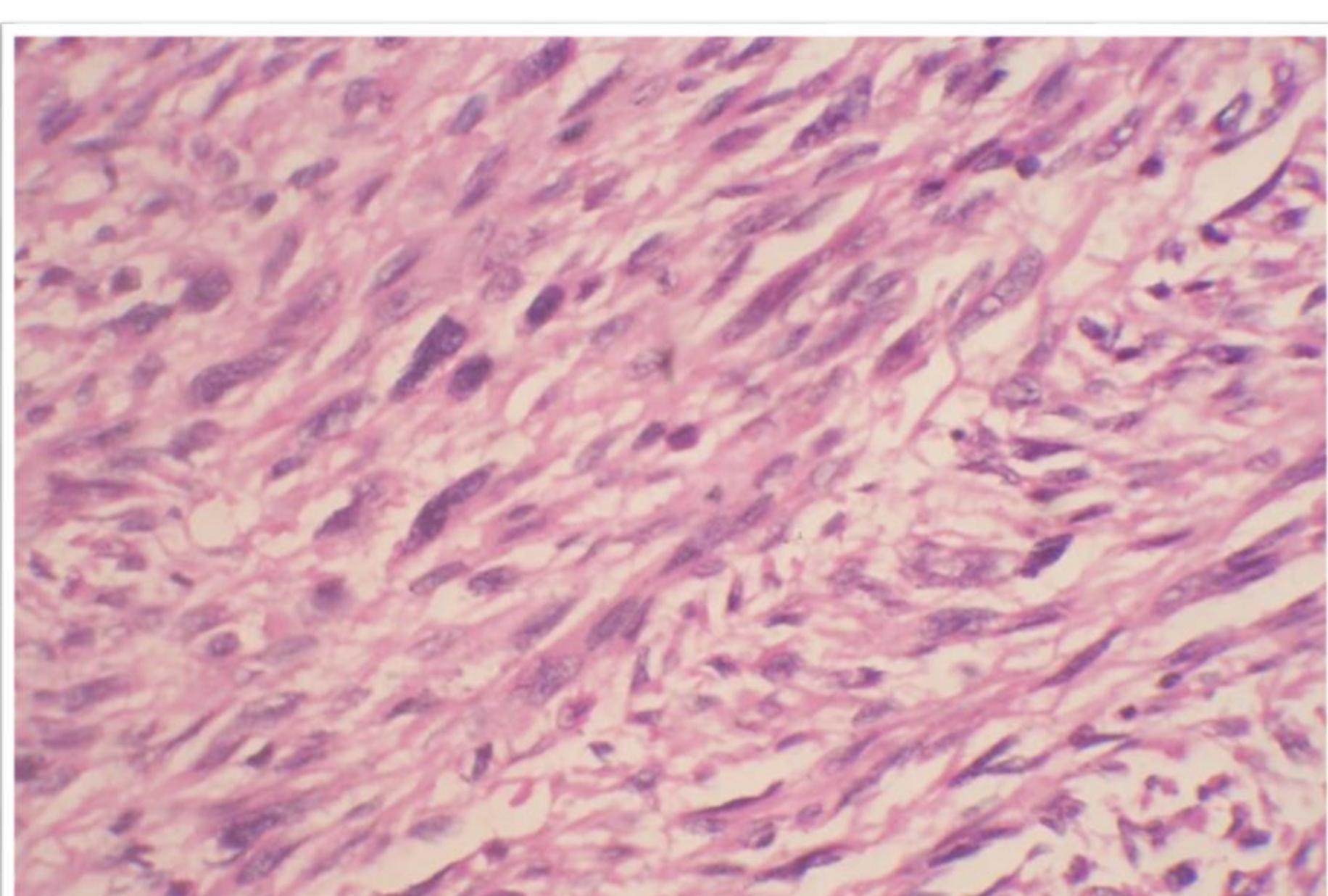
CASE SUMMARY

Patient Presentation:

- **Age:** 28 years
- **Gravida/Para:** Nulliparous
- **Symptoms:** Progressive abdominal pain and swelling for five months
- **Examination:** 24 cm abdominopelvic mass extending up to the epigastrium, firm and mobile.

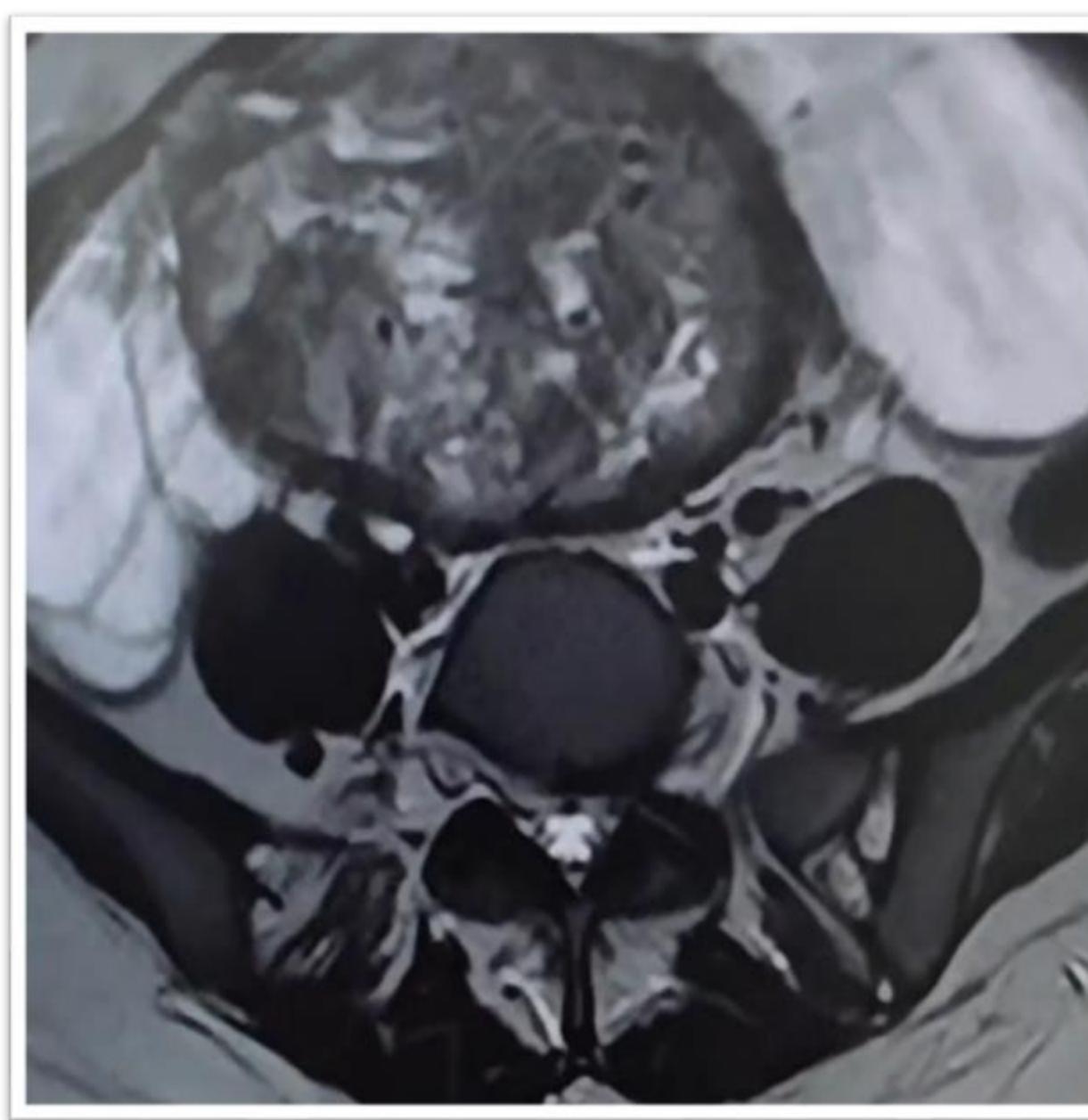
HISTOPATHOLOGY

- Moderate **cellular atypia**.
- **Low mitotic activity** (2–5/10 HPF).
- **Focal coagulative necrosis**
These features were consistent with a **uterine smooth muscle tumor of uncertain malignant potential (STUMP)** rather than leiomyosarcoma.



MANAGEMENT

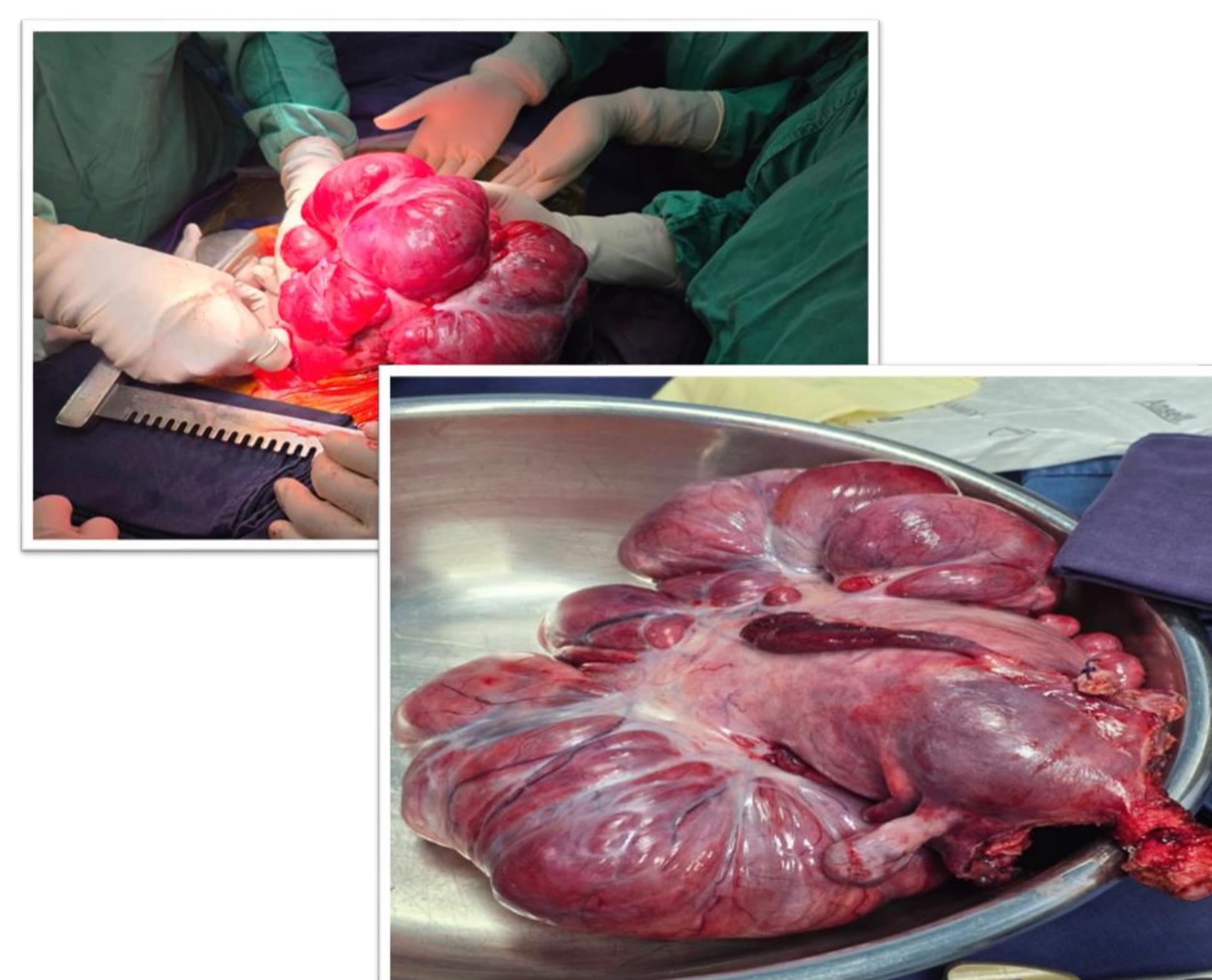
Imaging



- **Ultrasound and CT scan:**
Large, heterogeneous, solid-cystic uterine mass (197 × 205 × 77 mm).
- **Originating from the uterine fundus and extending to the upper mid-abdomen.**
- **Features** raised suspicion of a sarcomatous lesion.

Surgical Management

- The patient underwent::
- Exploratory laparotomy, Total abdominal hysterectomy
- Bilateral salpingectomy
- Left oophorectomy, with preservation of the right ovary



POST-OPERATIVE COURSE

- Recovery was uneventful.
- **Follow-up protocol:** CT imaging every 3 months for the first 3 years, then every 6 months for 2 years.
- No recurrence noted to date.
- Patient was counseled on fertility implications and hormonal changes.

DISCUSSION

Diagnostic dilemma: Overlapping features between benign and malignant smooth muscle tumors make diagnosis challenging.

Histologic criteria: Cellular atypia, mitotic index, and tumor cell necrosis (Stanford criteria).

Role of imaging: MRI/CT often show nonspecific features; differentiation from leiomyosarcoma remains difficult.

Emerging tools:

Immunohistochemical markers (p16, p53, Ki-67) and molecular profiling may enhance accuracy.

Management decisions: Depend on **age, fertility desire, tumor size, and risk features**.

Long-term follow-up is essential due to risk of recurrence and rare malignant transformation.

REFERENCES

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3. Kurtoğlu N et al. *J Pediatr Adolesc Gynecol* 2025; 38(3): 429–432.

KEY TAKEAWAYS

- STUMP lies on the histologic spectrum between leiomyoma and leiomyosarcoma.
- Requires **multidisciplinary management** (gynecologic oncology, pathology, radiology).
- **Fertility-sparing surgery** can be considered in carefully selected cases.
- **Regular surveillance** is mandatory for early detection of recurrence.

