Metastatic *ALK*-Positive Inflammatory Myofibroblastic Tumor of the Pelvis Eight Years After Uterine STUMP

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Introduction

- Inflammatory myofibroblastic tumor (IMT) is a rare neoplasm of intermediate malignant potential that can mimic gynecologic spindle-cell tumors, creating diagnostic uncertainty.
- Pelvic IMT is uncommon and often resembles leiomyoma variants, leiomyosarcoma, or STUMP on clinical and imaging evaluation.
- Diagnosis relies on histopathology and *ALK* molecular testing, which also guides therapy, as highlighted in this metastatic case following prior STUMP.

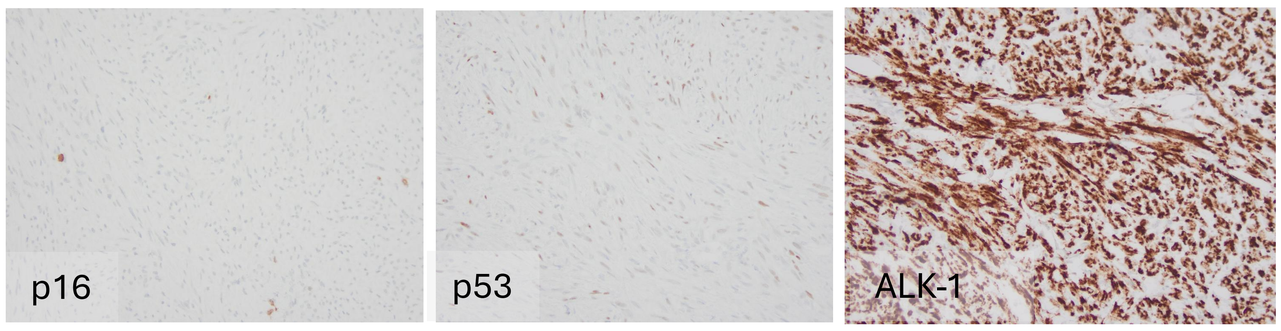

Figure 3. IHC, 20× magnification.
From left to right: p16 demonstrates patchy, nonspecific staining; p53 shows a wild-type expression pattern; and ALK-1 exhibits diffuse cytoplasmic positivity.

Case Presentation

A 59-year-old woman with a history of uterine STUMP diagnosed 8 years prior (status post hysterectomy with ovarian preservation) presented with recurrent nausea, vomiting, and abdominal pain. Imaging revealed a large pelvic mass with associated hydronephrosis and a vaginal cuff lesion, raising concern for malignancy. She underwent extensive multidisciplinary surgical resection, and pathology demonstrated a spindle cell neoplasm with lymphoplasmacytic infiltrate.

Immunohistochemistry showed diffuse ALK-1 positivity, confirming IMT. Despite initial resection, she was found to have widely metastatic disease requiring repeat cytoreductive surgery. Her postoperative course was complicated by multiple surgical complications, and she was ultimately started on targeted therapy with crizotinib.

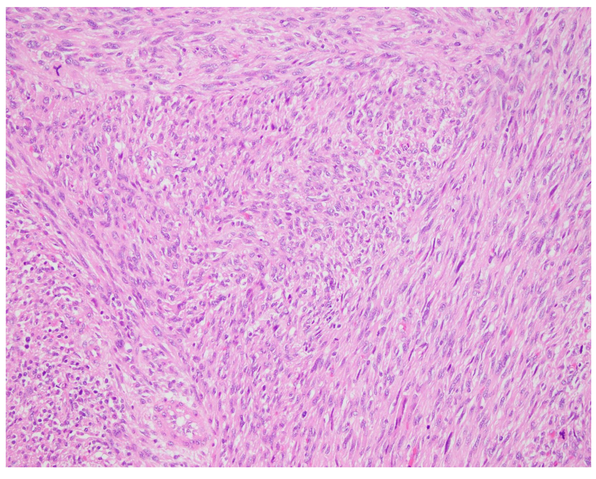

Figure 1. H&E stain (20×) demonstrating STUMP with increased cellularity, mild cytologic atypia, and rare mitotic activity without necrosis or vascular invasion.

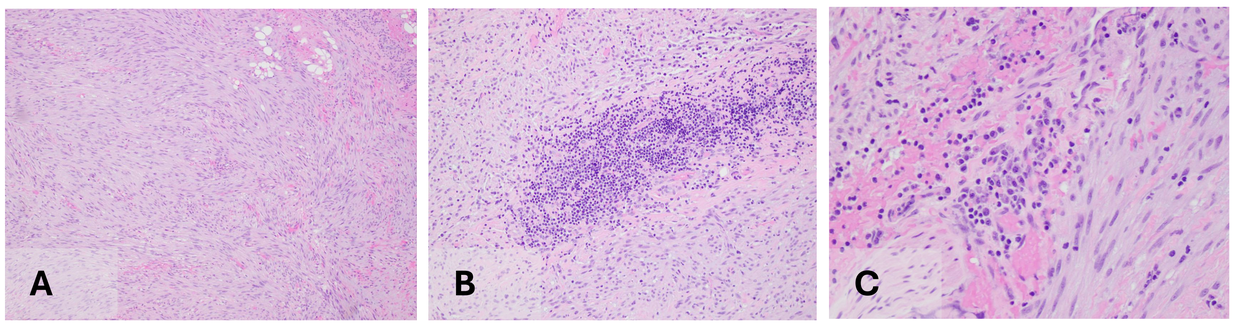

Figure 2. H&E-stained sections showing spindle cell neoplasm with fascicular architecture and lymphoplasmacytic infiltrate at increasing magnifications: **(A)** 10×, **(B)** 20×, **(C)** 40×.

Discussion

This case highlights a rare presentation of metastatic *ALK*-positive IMT occurring 8 years after uterine STUMP, demonstrating an unusually prolonged latency and significant diagnostic complexity. The patient's history of STUMP raised concern for recurrence, however, distinct histopathologic features and diffuse *ALK* positivity confirmed IMT as a separate neoplasm, underscoring the importance of integrating molecular testing in the evaluation of pelvic spindle cell tumors. Despite its intermediate classification, IMT can behave aggressively and this case illustrates its potential for local invasion and multiorgan involvement, often mimicking high-grade sarcoma and requiring extensive multidisciplinary surgical management. Identification of *ALK* rearrangement is critical not only for diagnosis but also for guiding therapy, as *ALK*-targeted agents such as crizotinib offer effective treatment options in metastatic or unresectable disease.

Conclusion

Pelvic IMT can present after prolonged latency and closely mimic recurrent gynecologic tumors, creating diagnostic challenges. Diagnosis requires histopathology with molecular testing, as *ALK* status guides classification and targeted therapy.

References

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