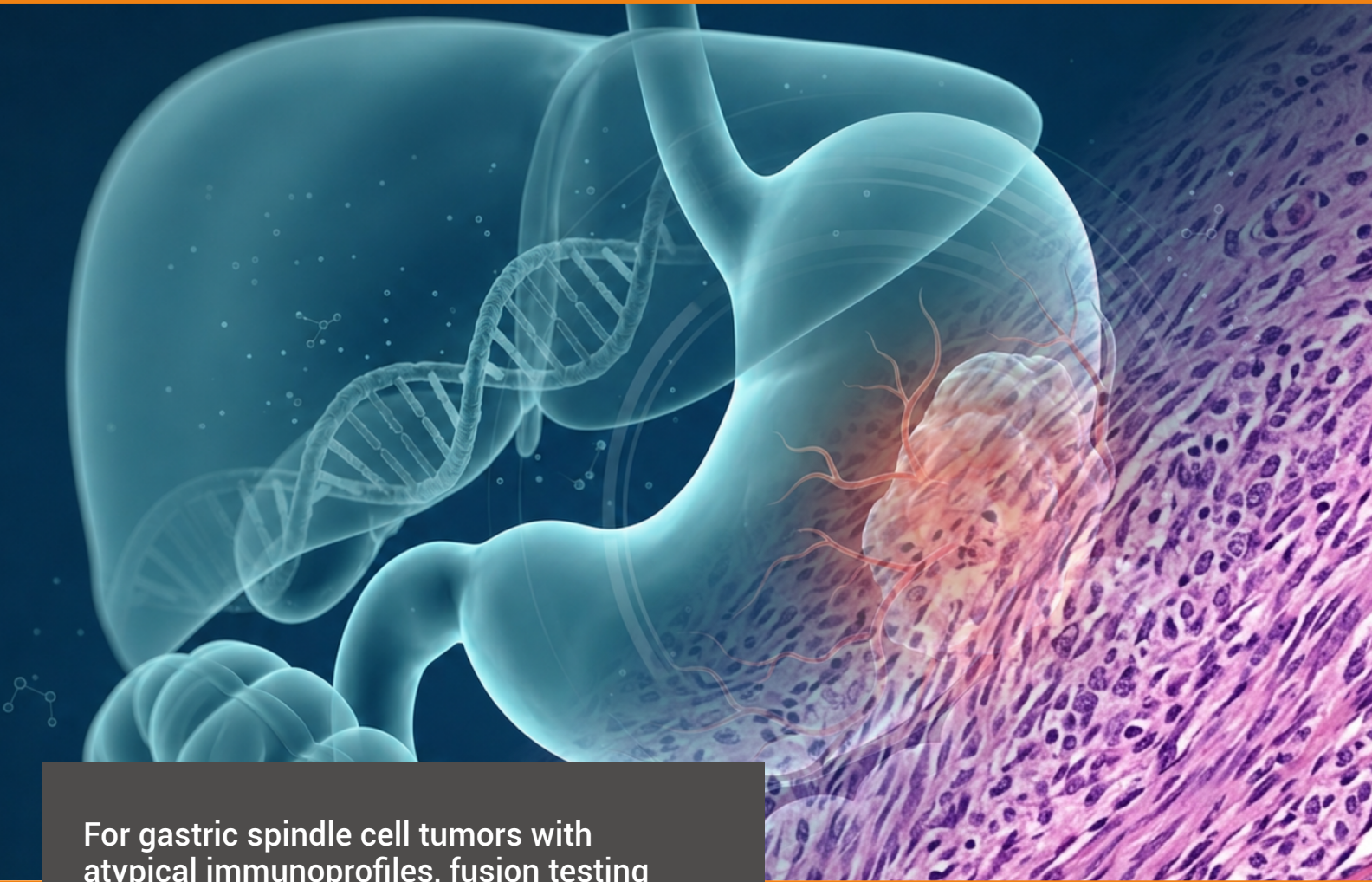


Case Study

Primary Synovial Sarcoma

Avoiding GIST Misclassification Through Molecular Precision



For gastric spindle cell tumors with atypical immunoprofiles, fusion testing is essential to guide correct therapy and avoid inappropriate targeted treatment

Diagnostic Challenge

Histopathology demonstrated a spindle cell tumor with fascicular architecture and hemangiopericytoma-like vasculature. Immunohistochemistry showed **absent or equivocal GIST markers**, creating uncertainty regarding tumor classification and therapeutic direction.

SS18::SSX2 Fusion

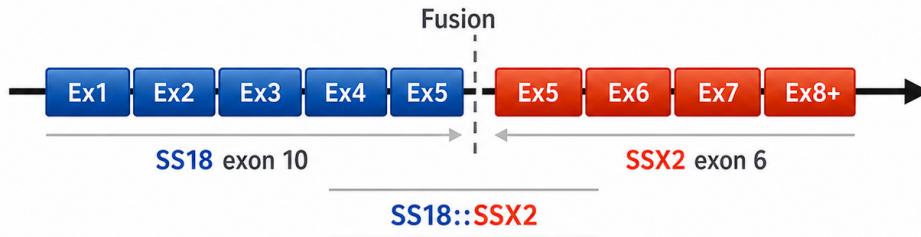


Figure 1
Aberrant Transcriptional Activity

Fusion Protein Domains



Why This Matters for Oncologists

- Synovial sarcoma and GIST require fundamentally different systemic treatment strategies
- Misclassification could lead to ineffective tyrosine kinase inhibitor therapy
- Accurate diagnosis enables appropriate sarcoma-directed management and surveillance

Clinical Takeaway

For gastric spindle cell tumors with atypical immunoprofiles, **fusion testing is essential** to guide correct therapy and avoid inappropriate targeted treatment.

References

1. Ortiz Requena D, Longacre T, Rosenberg A, et al. Synovial Sarcoma of the Gastrointestinal Tract. *Modern Pathology*, 2023; 37.
2. Romeo S, Rossi S, Acosta Marin M, et al. Primary Synovial Sarcoma (SS) of the digestive system: a molecular and clinicopathological study of fifteen cases. *Clin Sarcoma Res*, 2015; 5:7.

Clinical Scenario

A 41-year-old man presented with epigastric discomfort and unexplained weight loss. Imaging revealed a gastric mass suspicious for a spindle cell malignancy. Given the location and morphology, **GIST was the leading clinical consideration.**

Molecular Finding That Changed Management

Comprehensive molecular testing identified an **SS18::SSX2 fusion**, establishing the diagnosis of **primary gastric synovial sarcoma** (monophasic type)—a rare but clinically distinct entity.



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