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Giant Gastric Gastrointestinal Stromal Tumor with Schwannian-Like Features: A Diagnostic Pitfall

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INTRODUCTION & AIM

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal neoplasms of the gastrointestinal tract and originate from the interstitial cells of Cajal. They usually display spindle cell or epithelioid morphology and characteristically express KIT (CD117) and/or DOG1. Unusual histological patterns, including schwannian-like features, may be encountered and represent a diagnostic challenge, particularly in gastric tumors.

To report a giant gastric GIST with prominent schwannian-like morphology highlighting the importance of immunohistochemistry in the differential diagnosis with gastric schwannoma.

METHOD

We report a clinicopathological study of a surgically resected gastric mass in a 64-year-old patient.

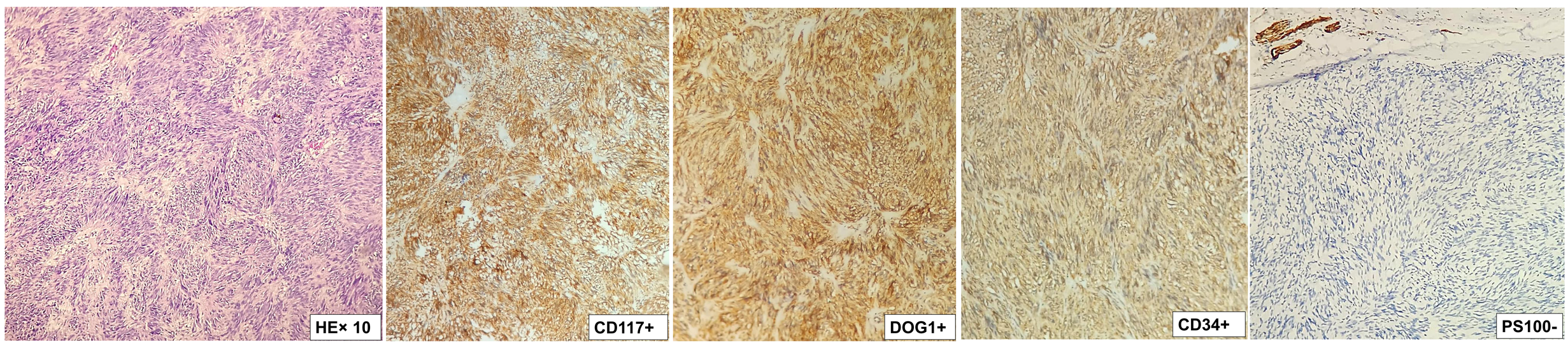
Gross examination and routine histological analysis using hematoxylin and eosin staining were performed. Mitotic activity was assessed in high-power fields.

Immunohistochemical studies included DOG1, CD117, CD34, S100 protein, desmin, and smooth muscle actin (SMA).

RESULTS & DISCUSSION

The tumor arose from the greater curvature of the stomach and measured 21 cm in greatest dimension. Histologically, the lesion was ulcerated at the surface and composed of spindle cells arranged in a nodular architecture, with nodules separated by fibrous septa. Tumor cells showed nuclear palisading, creating a schwannian-like appearance. The stroma was predominantly fibrous with focal myxoid areas, and tumor necrosis was present. A high mitotic rate was identified, estimated at 25 mitoses per 21 high-power fields. Immunohistochemically, the tumor cells showed strong and diffuse positivity for DOG1, CD117, and CD34, while S100 protein, SMA, and desmin were negative, confirming the diagnosis of GIST.

The differential diagnosis with gastric schwannoma was particularly challenging because of the prominent schwannian-like features. However, unlike gastric schwannomas, which are generally benign regardless of size, large gastric GISTs are associated with a significant risk of aggressive behavior. According to the Miettinen risk stratification system, gastric GISTs of this size are classified as high-risk tumors, emphasizing the importance of accurate diagnosis for prognostic assessment and therapeutic management.



CONCLUSIONS

This case highlights a giant gastric GIST with schwannian-like features that may closely mimic a gastric schwannoma. Recognition of this morphological pitfall is crucial to avoid misdiagnosis. Immunohistochemistry remains indispensable for accurate diagnosis and prognostic assessment.

FUTURE WORK/ REFERENCES/ACKNOWLEDGMENT

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