

Surgical images: soft tissue

Gastrointestinal stromal tumour of the stomach

A 65-year-old woman who presented with hematemesis and melena had a history of chronic anemia but no previous episodes of gastrointestinal bleeding. Her hemoglobin level was 69 g/L. Gastroscopy revealed a submucosal mass in the posterior wall of the antrum and focal ulcerations of the mucosa overlying the lesion. An upper gastrointestinal series confirmed a round, well-circumscribed mass in the antrum (Fig. 1).

At laparotomy, the mass could be seen impinging on the anterior gastric wall (Fig. 2). A distal gastrectomy was performed. Examination of the gross

specimen revealed a $3.5 \times 2.5 \times 2.2$ cm submucosal polypoid mass and erosions of the mucosa (Fig. 3).

Histologic analysis showed a gastrointestinal stromal tumour (GIST), spindle cell type, composed of eosinophilic cells arranged in short fascicles and a paler syncytial-appearing eosinophilic cytoplasm (Fig. 4).

Mitotic activity did not exceed 2 mitoses per 50 high-power fields (HPFs). The tumour was immunochemically slightly positive for muscle-specific actin, and negative for desmin S-100. Immunostaining for the KIT receptor was not performed because this technique has just been implemented at our institution. The tumour was classified as benign based on its size (<5 cm) and according to its negligible mitotic activity.

GIST describes the largest category of primary nonepithelial nonlymphomatous

neoplasms of the stomach and small bowel. Gastric stromal tumours are rare, accounting for only about 4% of all the tumours of the stomach. Clinical outcome and prognosis are difficult to predict from morphologic data. These tumours are characterized by a remarkable cellular variability, and their malignant potential is sometimes difficult to predict. GISTs are usually categorized into 3 groups: (1) benign: tumour size less than 5 cm, mitotic count less than 5 per 50 HPFs; (2) borderline: tumour size more than 5 cm and less than 10 cm, mitotic count no more than 5 per 50 HPFs; (3) malignant: tumour any size, mitotic count greater than 5 per 50 HPFs.¹⁻³

Although modern immunohistochemical techniques are available, mitotic count is one of the more reliable single factors in differentiating between GISTs of varying malignant potential.⁴

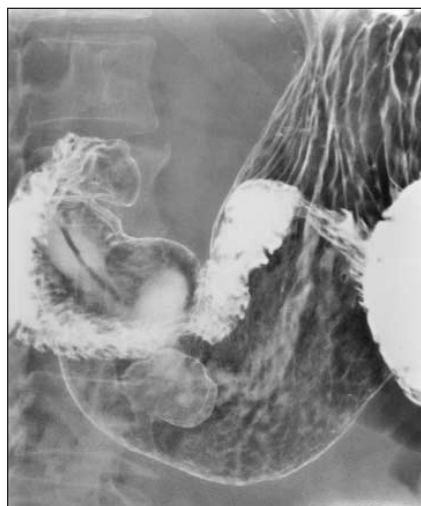


FIG. 1. Upper gastrointestinal series demonstrates a gastrointestinal stromal tumour (GIST) of the antrum.



FIG. 2. The GIST is impinging on the anterior gastric wall.



FIG. 3. The GIST specimen showing a submucosal polypoid mass and erosions of the mucosa.

Submitted by Henri Vuilleumier, MD, and Nermin Halkic, MD, from the Department of Surgery, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland

Correspondence to: Dr. Henri Vuilleumier, Department of Surgery, Centre Hospitalier Universitaire Vaudois (CHUV), 1011 Lausanne, Switzerland; fax + 41 21 314 23 60; Henri.Vuilleumier@chuv.hospvd.ch

Submissions to Surgical Images, soft-tissue section, should be sent to the section editors: Dr. David P. Girvan, Victoria Hospital Corporation, PO Box 5375, Station B, London ON N6A 5A5 or Dr. Nils Schmidt, Department of Surgery, St. Paul's Hospital, 1081 Burrard St., Vancouver BC V6Z 1Y6.

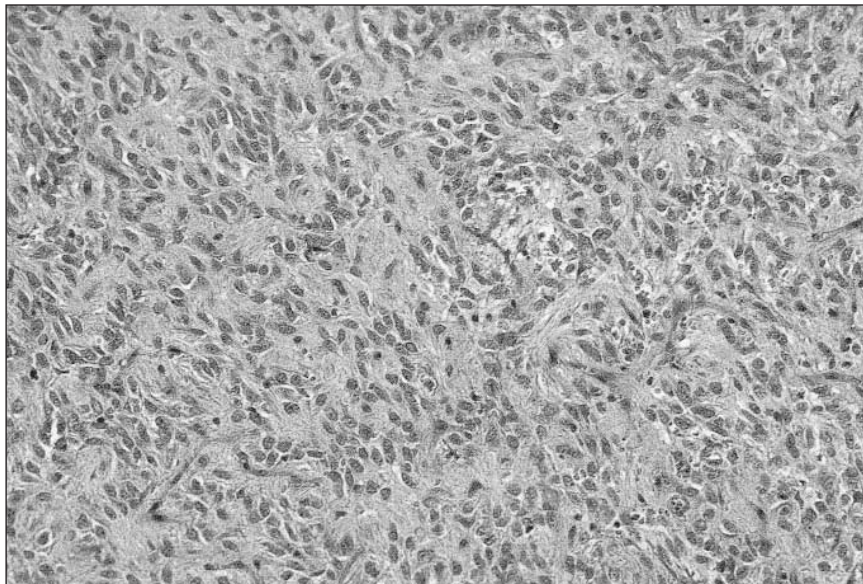


FIG. 4. Histologically, the GIST is of the spindle cell type (hematoxylin-eosin stain; original magnification $\times 400$).

Competing interests: None declared.

References

1. Joensuu H, Fletcher C, Dimitrijevic S, Silberman S, Roberts P, Demetri G. Management of malignant gastrointestinal stromal tumours. *Lancet Oncol* 2002;3:655-64.
2. Miettinen M, El-Rifai W, HL Sobin L, Lasota J. Evaluation of malignancy and prognosis of gastrointestinal stromal tumors: a review. *Hum Pathol* 2002;33:478-83.
3. Fletcher CD, Berman JJ, Corless C, Gorstein F, Lasota J, Longley BJ, et al. Diagnosis of gastrointestinal stromal tumors: a consensus approach. *Hum Pathol* 2002;33:459-65.
4. DeMatteo RP, Lewis JJ, Leung D, Mudan SS, Woodruff JM, Brennan MF. Two hundred gastrointestinal stromal tumors: recurrence patterns and prognostic factors for survival. *Ann Surg* 2000;231:51-8.

Canadian Journal
of Surgery Journal canadien
de chirurgie

Change of address

We require 6 to 8 weeks' notice to ensure uninterrupted service. Please send your current mailing label, new address and the effective date of change to:

CMA Member Service Centre

1867 Alta Vista Dr.
Ottawa ON K1G 3Y6

tel 888 855-2555 or
613 731-8610 x2307
fax 613 236-8864
cmamsc@cma.ca

Changement d'adresse

Il nous faut de 6 à 8 semaines d'avis afin de vous assurer une livraison ininterrompue. Veuillez faire parvenir votre étiquette d'adresse actuelle, votre nouvelle adresse et la date de la prise d'effet du changement, à l'attention du

Centre des services aux membres de l'AMC

1867, prom. Alta Vista
Ottawa ON K1G 3Y6

tél 888 855-2555 ou
613 731-8610 x2307
fax 613 236-8864
cmamsc@cma.ca

ASSOCIATION
MÉDICALE
CANADIENNE



CANADIAN
MEDICAL
ASSOCIATION