

# Adenosquamous carcinoma of the pancreas: a challenging case

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## Clinical features

A 66-year-old woman presented with fatigue, abdominal pain, and anemia. She was in her normal state of health until approximately 2 weeks prior when she began to have mild epigastric abdominal pain that worsened with coughing. She denied fever, nausea, vomiting or night sweats.

## Results

On imaging, a 9.5 cm mass involving the pancreatic tail with direct extension into (or possibly from) the stomach was identified. Concurrent nodules in the liver, lung, spleen, adrenal glands, colon, and omentum were also discovered. Subsequent endoscopic evaluation of the stomach demonstrated irregular, friable mucosa in the cardia (biopsied) and antrum which was concerning for malignancy. No discrete mass lesion was identified. Her levels of tumor markers were significantly increased (CA125, 621.4 U/mL (Ref:  $\leq 35.0$  U/mL), CA19-9, 5638.5 U/mL (Ref:  $\leq 37.0$  U/mL); and CEA, 77.3 ng/mL (Ref:  $< 5.0$  ng/mL)).

Histologic sections of the irregular gastric mucosa revealed a biphasic malignant neoplasm comprised of gland-like spaces lined by cells with abundant cytoplasmic mucin, framed by a multilayered squamous/transitional epithelium (Figure A). No intestinal metaplasia or dysplasia was identified.

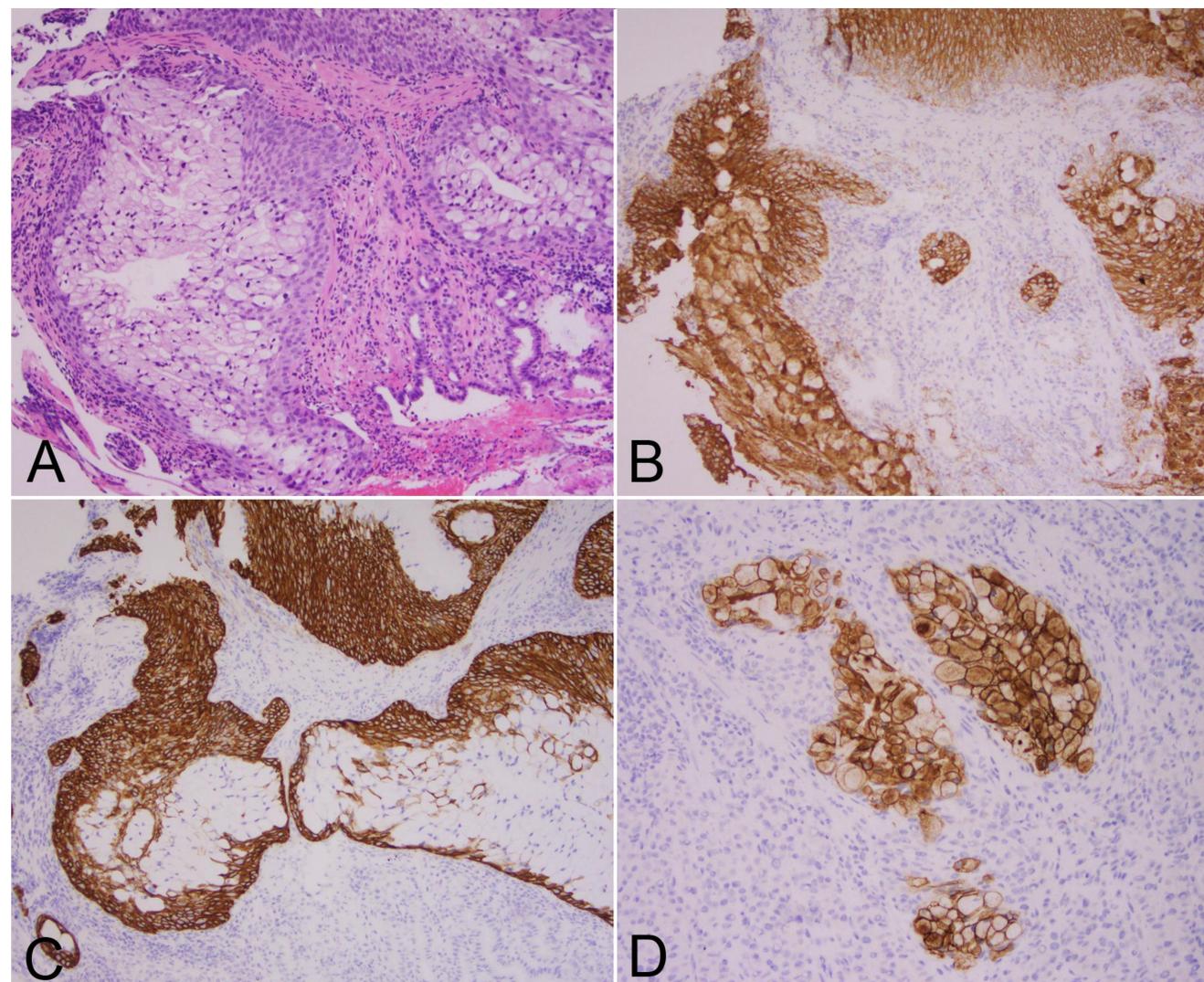


Figure 1. Stomach cardia ulcerated lesion biopsy. A. H&E stain shows a biphasic malignant neoplasm comprised of both glandular and squamous cell components. B. CK7 is expressed in both glandular and squamous components. C. CK5/6 highlights the squamous component. D. Monoclonal CEA highlights the glandular component.

Both mucinous and squamous components were positive for CK7 (Figure B), whereas only the squamous component expressed CK5/6 (Figure C), and only the glandular component expressed monoclonal CEA (Figure D).

## Conclusion/Discussion

Taken all together, the findings are diagnostic of adenosquamous carcinoma.

Adenosquamous carcinoma is a rare tumor with extremely poor prognosis. While it can occur in many different sites, it represents only 1%-4% of pancreatic exocrine malignancies and less than 0.4% of gastric malignancies. In both pancreas and stomach, the tumor typically presents at late stage. In this case, concurrent involvement of both organs raised concern regarding the site of origin. As immunohistochemistry is insufficient for distinguishing between tumors from these two sites, the combination of imaging features (major lesion in the pancreas), endoscopic observation (absence of significant mass lesion on the gastric mucosa), and microscopic findings (absence of in situ neoplasia in the stomach) supported pancreas as the primary site.

## References

- Simone CG, Toro TZ, Chan E *et al.* Characteristics and Outcomes of Adenosquamous Carcinoma of the Pancreas. *Gastrointest Cancer Res.* 2013 May-Jun;6(3):75-79.
- Chen YY, Li AF, Huang KH *et al.* Adenosquamous carcinoma of the stomach and review of the literature. *Pathol Oncol Res.* 2015 Jul;21(3):547-51.