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Metastatic disease masquerading as small intestinal tumoural masses: two case reports and literature review

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Abstract

Metastatic disease presenting clinically as small intestinal tumoural masses has been described in the literature but is uncommon. It is imperative to consider the possibility of metastases before diagnosing a primary small intestinal malignancy. We hereby illustrate two such case reports of metastatic disease presenting as tumoural masses in the small intestines. First is a 63-year-old gentleman with known metastatic renal cell carcinoma (RCC) who presented with intestinal obstruction. Radiological imaging of the abdomen revealed a jejuno-jejunal intussusception, secondary to a solitary polypoid tumour. Histology of the polypoid tumour confirmed the presence of clear cell RCC. In our literature review, we note that intussusception is a common presentation in metastatic RCC to the small intestines. Hence, this clinical feature may be useful in determining a metastatic process, even in the setting of a solitary lesion. Second is a 41-year-old lady who presented with massive bleeding from the upper gastrointestinal tract. Gross examination of the distal duodeno-jejunectomy specimen reveals aggregates of reddish polypoid tumours. Histological and immunohistochemical techniques culminated in a diagnosis of metastatic choriocarcinoma. Metastatic choriocarcinoma to the small intestines is uncommon, but careful evaluation of histological features coupled with the judicious use of immunohistochemistry and a degree of suspicion can help make the correct diagnosis. In conclusion, metastatic disease masquerading as small intestinal tumoural masses is not uncommon. Judicious use of immunohistochemistry, in addition to the careful identification of pertinent clinical and histological features, can help pathologists reach the correct diagnosis.

Keywords

Polyps, metastases, intestines, renal cell carcinoma, choriocarcinoma

Introduction

Primary epithelial neoplastic lesions of the small intestines are uncommon, with only 1–2% of all malignant gastrointestinal neoplasms occurring in the small intestines.[1] As metastatic tumours of the small intestines are significantly more common than primary neoplasms,[2] it is imperative to consider the possibility of metastases before diagnosing a primary small intestinal malignancy.

Metastasis is the spread of a cancer from the primary site to another part of the body. The type and origin site of metastatic tumour is best determined by correlating clinical and pathological findings. However, in the absence of morphologically distinctive features, it entails the judicious use of immunohistochemistry,[3] which will be illustrated in one of our cases.

Metastatic disease presenting clinically as small intestinal tumoural masses have been described in the literature but are noted to be uncommon.[4–6] We hereby illustrate two such case reports of a metastatic renal cell carcinoma (RCC) and metastatic choriocarcinoma presenting as small intestinal tumoural masses. Here, we will discuss how the pathologist, armed with a healthy dose of suspicion, coupled with a careful mental evaluation of certain histological and clinical features, plus the judicious use of immunohistochemistry, can differentiate a metastatic process from a primary malignancy.

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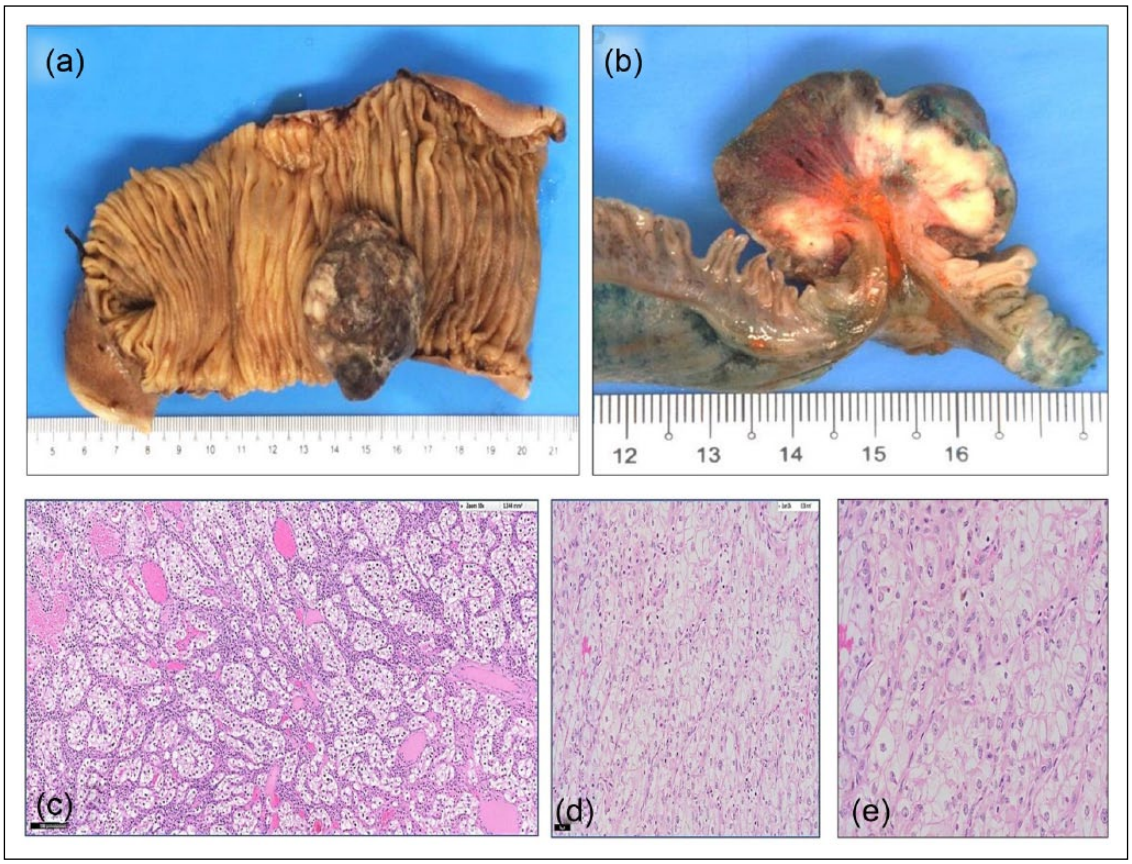

Figure 1. Case 1 – gross images (a, b) and microscopic features (c–e) of clear cell renal cell carcinoma (RCC). (a) Solitary polypoid tumour. (b) Cut section of polypoid tumour with puckering of the serosa (inked orange). (c) Nested pattern of clear cell RCC, invested within a rich vascular network. (d) Neoplastic cells with clear cytoplasm (H&E, 200× magnification). (e) Neoplastic cells with clear cytoplasm (H&E, 400× magnification).

Case reports

The first case involved a 63-year-old man who was already known to have a history of metastatic RCC. He underwent a left nephrectomy in 2004, and then presented with a right lung lesion in 2013, which on histology showed features consistent with metastatic clear cell RCC. In 2015, an endoscopically visualised stomach lesion turned out to be metastatic clear cell RCC on biopsy as well. In the most recent admission in 2016, he was admitted for left upper quadrant abdominal pain and a computed tomography (CT) scan showed jejuno-jejunal intussusception secondary to a lead point measuring 2.5 × 1.2 cm. He underwent a small bowel resection. The specimen consists of a segment of small bowel measuring 15.8 cm (length) and 7.2 cm in open circumference with a polypoid tumour measuring 4 cm (length) × 3.8 cm (width) × 2.8 cm (height), with puckering of the serosa at the site of tumour. Histology showed classical features of clear cell RCC composed of packets of clear cells invested within a rich vascular network (Figure 1).

In the second case, a 42-year-old female presented with lower abdominal pain, vomiting and loss of appetite. CT scans of the thorax, abdomen and pelvis found nodules in lung, liver, spleen and kidney, with a splenic rupture and resultant haemoperitoneum. Her serum beta-human chorionic gonadotropin (hCG) level was also elevated. Laparoscopic splenectomy was performed but the patient had persistent drop in haemoglobin post-op with melenic stools. An oesophago-gastro-duodenoscopy (OGD) found a bleeding duodenal mass. Due to persistent bleeding, she underwent a small bowel resection that revealed three areas of tumoural masses at the third segment of the duodenum, the duodeno-jejunal flexure and the proximal jejunum. Histology revealed a haemorrhagic tumour composed of epithelioid tumour cells with scattered multinucleated forms. Foci of lymphovascular invasion are present. Immunohistochemical staining showed immunopositivity of the tumour cells with beta-hCG and human placental lactogen (hPL). The overall features are in keeping with a metastatic choriocarcinoma (Figure 2).

Discussion

In the above two case reports, we successfully illustrate two examples of metastatic diseases masquerading as small intestinal tumoural masses. In the first case, correlation with clinical history and classical morphological features of clear cell RCC helped in clinching the diagnosis. From our literature review, we observed that intussusception is a common presentation in metastatic RCC to the small intestines. Case reports have shown single intussusception observed for solitary polypoid mass,[4] and even multiple intussusceptions observed for multiple metastatic polypoid masses.[5,6] Primary tumours of the small intestines with clear cell features are

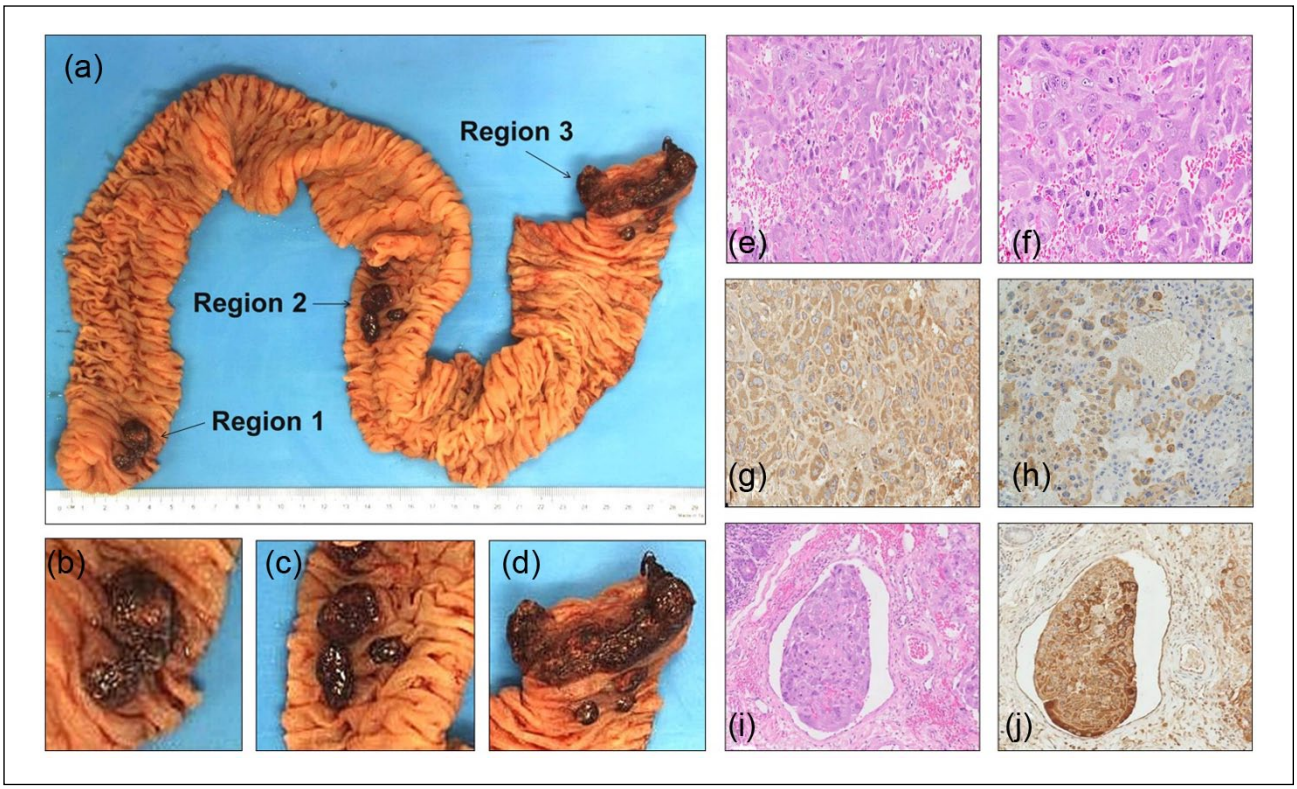

Figure 2. Case 2 – gross images (a–d) and microscopic features (e–j) of choriocarcinoma. (a) Duodeno-jejunectomy specimen comprising of multiple reddish polypoid tumours appearing in three separate regions. (b–d) Close-up images of polypoid tumours in each region. (e, f) Tumour consisting of cytotrophoblasts and scattered multinucleated syncytiotrophoblasts (H&E, 200× magnification and H&E, 400× magnification). (g) Positive beta human chorionic gonadotropin (hCG) immunostain. (h) Positive human placental lactogen (hPL) immunostain. (i, j) Lymphovascular invasion with positive beta-hCG immunostain.

extremely rare, with differential diagnoses including clear cell adenocarcinoma and clear cell sarcoma-like tumour of the gastrointestinal tract. When in doubt, a carefully chosen immunohistochemical panel will help to resolve the issue.

In the second case, the clinical hint came from the elevated serum beta-hCG. Grossly, the scattered nature of the polypoid masses may indicate a metastatic process. In retrospect, the reddish and haemorrhagic appearance of these polypoid masses are in keeping with choriocarcinoma.[7] Although we have also found reports of metastatic choriocarcinoma presenting with intussusception in the jejunum,[7, 8] it is observed that masses located at the jejunum has a higher incidence of presenting as intussusception,[4–8] as compared to masses located at the duodenum which has the propensity to present as gastrointestinal bleeding.[9,10] It is useful to keep in mind that metastatic disease in the small bowel can also manifest in other forms, such as perforation, gastrointestinal bleeding and extensive polyposis.[9,11] In this case, a healthy dose of suspicion that a metastatic process must be ruled out, coupled with careful evaluation of the histological features, raised the consideration of a metastatic choriocarcinoma. Furthermore, the judicious use of specific immunohistochemical markers such as beta-hCG and hPL helped make the diagnosis.

Conclusion

Metastatic tumours of the small intestines are significantly more common than primary neoplasms. It is imperative to consider the possibility of metastatic disease masquerading as small intestinal tumoural masses during diagnosis, as discussed in the two cases reports.

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Declaration of conflicting interests

The authors declare that there are no conflicts of interest.

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