Primary peritoneal hepatoid adenocarcinoma: a diagnostic and therapeutic conundrum in patients with gastrointestinal bleeding

Faisal Inayat,1 Fahad Zafar,2 Hanan Tahir Lodhi,3 Waqas Ullah4

DESCRIPTION
A 50-year-old man with a history of iron-deficiency anaemia and fatty liver disease presented to the emergency department complaining of black tarry stools with associated weakness and shortness of breath for 1 week. At presentation, contrast-enhanced CT revealed multiple hypervascular masses in the abdomen and pelvis with the largest lesion located in the right lower quadrant, abutting the right psoas muscle (figure 1). Laboratory evaluation demonstrated a haemoglobin level of 5.5 g/dL (normal, 13.5–17.5 g/dL). Upper endoscopy showed a mass, which was making an extrinsic impression into the stomach (figure 2). Colonoscopy was unremarkable for abnormalities. Endoscopic ultrasound-guided fine-needle aspiration (FNA) of the lesion adjacent to the stomach was performed using a 22-gauge needle (Expect Slimline; Boston Scientific, Natick, Massachusetts, USA). The FNA was positive for metastatic carcinoma with hepatic features. Furthermore, capsule endoscopy identified blood clots surrounding the multiple, small intestinal masses. These lesions were subsequently identified as the metastatic hepatoid adenocarcinoma (HAC) based on the histopathological findings.

The patient then underwent exploratory laparotomy with biopsy to establish the aetiology of the peritoneal mass. The pathological examination of the biopsy specimen from the peritoneal mass in the right lower quadrant showed hepatoid cells with abundant eosinophilic cytoplasm (figure 3). The cells were positive for hepatocyte-specific antigen (figure 4). Additionally, hepatocellular markers, including glypican-3, arginase-1, alpha-fetoprotein (AFP), alpha-1 antitrypsin, carcinoembryonic antigen and cytokeratins 8/18 were also positive. His blood work revealed an AFP of 26 000 ng/mL (normal, <10 ng/mL). Biopsy was considered consistent with metastatic hepatocellular carcinoma,

Figure 1 Contrast-enhanced CT abdomen and pelvis showing multiple peritoneal masses (coronal view).

Figure 2 Esophagogastroduodenoscopy showing extrinsic impression on the fundus of the stomach.

Figure 3 Pathological analysis of the peritoneal mass biopsy showing focal ballooned hepatoid cells having dense eosinophilic cytoplasm and large nuclei with minimal chronic inflammation (H&E staining; 200×).
Hepatoid adenocarcinoma (HAC) is a rare extrahepatic adenocarcinoma that morphologically and immunophenotypically mimics hepatocellular carcinoma. To our research, this is the eighth documented case of primary peritoneal HAC in the literature.

Differentiating primary peritoneal HAC from other tumours is a challenge and is also critical.

Due to rarity and heterogeneity of primary peritoneal HAC, no standard treatment exists.

The standard diagnostic and therapeutic algorithms are particularly warranted for these tumours, especially in patients with unusual initial presentations related to the gastrointestinal bleeding.

Learning points

- Hepatoid adenocarcinoma (HAC) is a rare extrahepatic adenocarcinoma that morphologically and immunophenotypically mimics hepatocellular carcinoma. To our research, this is the eighth documented case of primary peritoneal HAC in the literature.
- Differentiating primary peritoneal HAC from other tumours is a challenge and is also critical.
- Due to rarity and heterogeneity of primary peritoneal HAC, no standard treatment exists.
- The standard diagnostic and therapeutic algorithms are particularly warranted for these tumours, especially in patients with unusual initial presentations related to the gastrointestinal bleeding.

REFERENCES


Acknowledgements

This case was presented as an abstract at the Annual Scientific Meeting of the American College of Gastroenterology, held on 13–18 October 2017 in Orlando, Florida, USA.

Contributors

Fl designed the study, performed the literature review, drafted the manuscript, reviewed the manuscript, revised the manuscript critically for important intellectual content and gave the final approval for the version published. FZ performed the literature review and drafted the manuscript. HTL reviewed the manuscript. WU contributed to the case presentation and suggested pertinent modifications.

Funding

The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests

None declared.

Patient consent

Obtained.

Provenance and peer review

Not commissioned; externally peer reviewed.