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Image of the Month

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Perirectal metachronous recurrence of the hepatocellular carcinoma in the rectum on the 11C choline PET–CT

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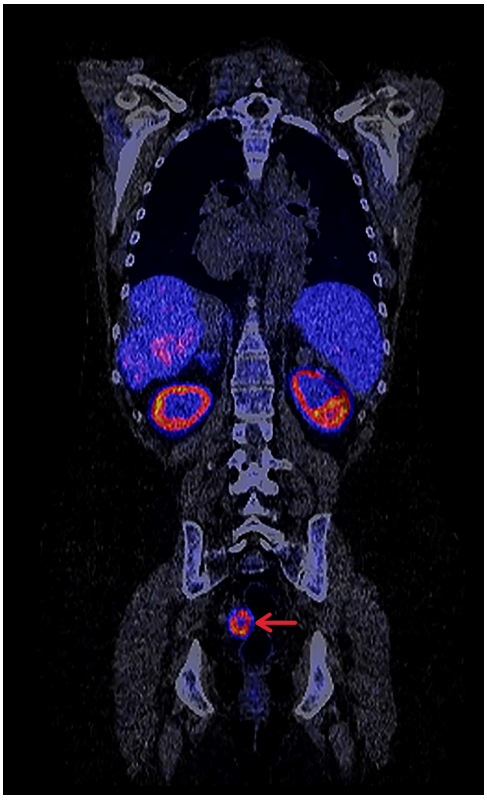

Figure 1.

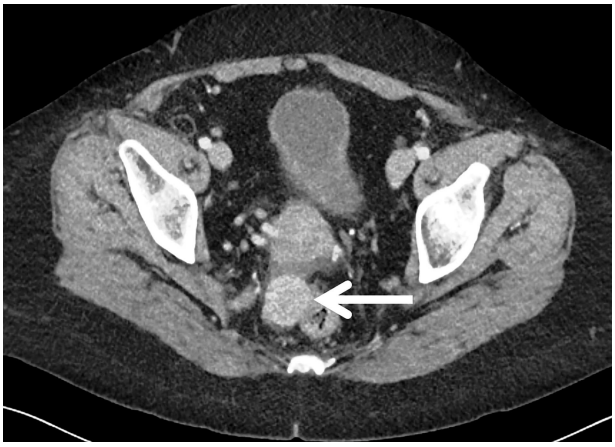

Figure 2.

A 48-year-old female presented with a history of multicentric hepatocellular carcinoma (HCC). She had a complete tumour removal via local excision and radiofrequency ablation without tumour recurrence. On follow-up, she underwent ^{11}C choline positron emission tomography-computed tomography (PET-CT) for tumour restaging, given the raised serum alfa-fetoprotein (AFP). Fused axial and coronal ^{11}C choline PET–CT showed an ^{11}C choline-avid mass (SUVmax: 17.9 g/dl) in the right upper perirectal region (arrowed) (Fig. 1). An enhanced, contrasted axial CT image confirmed the presence of an exophytic rectal wall mass with an indistinct tumour-rectal fat plane at the 11 o'clock position (arrowed) (Fig. 2). The anterior resection of the upper rectum and end-to-end anastomosis was performed. Solid fields of polygonal cells met the hepatoid aspect, in the fibrous stroma with an invasion of the muscularis propria of the rectal wall (multiple arrows). Tumour cells had polymorph nuclei, chromatine and eosinophilic granular cytoplasm. Immunohistochemistry showed expression of arginase, heppar-1 and BSEP, typical for hepatic origin (Fig. 3). A perirectal metachronous HCC in the rectum is exceedingly

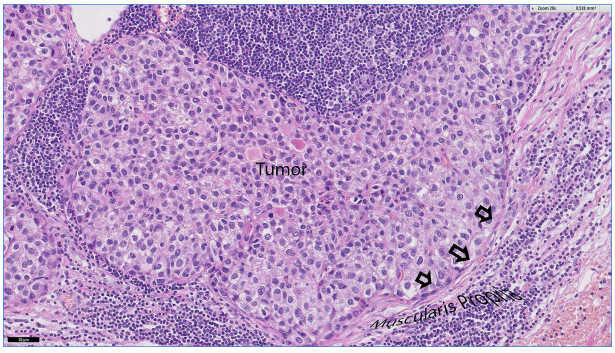

Figure 3.

rare, which may be rendered inconspicuous on conventional imaging studies. In this case, the ^{11}C choline was an important marker in underpinning the proliferation of the phospholipids in the cell membranes of the tumour. It is hypothesized that, based on the histology finding that the tumour epicentre was located deep in the subserosa, the hepatofugal portal or inferior vena cava dissemination of the primary HCC was the likely mode of the tumour spread.

Conflict of interest statement

No conflict of interest.

Funding

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Ethical approval

Written informed consent was obtained from the patient for the information to be included in our manuscript. His information has been de-identified to the best of our ability to protect his privacy.

Author contributions

Each author participated in writing the manuscript and all agreed to accept equal responsibility for the accuracy of the content of the paper.