Recognition of supraduodenal artery from hepatic artery is essential to avoid untoward complications at HAIC: two cases

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DESCRIPTION

Supraduodenal artery (SDA) supplies the proximal duodenum, which originates most commonly from gastroduodenal artery (GDA), followed by common and proper hepatic artery.[1 2] Origination from left hepatic artery (LHA) is relatively rare and only few articles have addressed this anatomic variation.[3] Recognition of such an aberrant artery and proper coiling before liver-directed therapy are essential to prevent non-target organ injury. Herein, we report two rare cases of SDA that originated from the LHA.

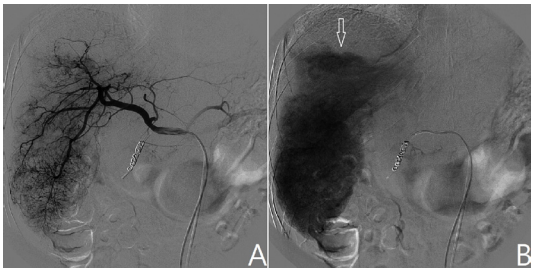

Figure 1 Common hepatic artery arteriography showing massive type hepatocellular carcinoma at right lobe of liver (A) and right portal vein thrombosis on the delayed images (B). A previous hepatic arterial infusion chemotherapy catheter placed in GDA was depicted on both images. He suffered from intense epigastric upset during the first cycle of intrahepatic arterial infusion with 5-Fluorouracil 50 mg and Cisplatin 10 mg daily for 5 consecutive days in a week and sustained massive upper gastrointestinal bleeding at the second day of second cycle infusion.

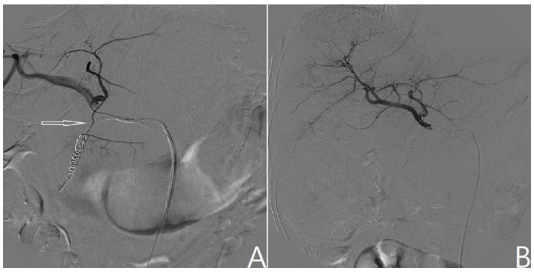

Figure 2 LHA arteriography showed that the SDA originated from the LHA (A), and we successfully embolised the SDA with a 3–2 mm Vortx minicoil (Boston Scientific) (B) and proceeded with TACE. LHA, left hepatic artery; SDA, supraduodenal artery.

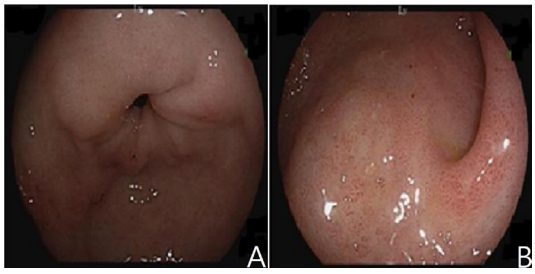

Figure 3 This 59-year-old man with recurrent HCCs in both hepatic lobes had intractable epigastralgia after 1st temporary HAIC (Cisplatin 10 mg, Mitomycin-C 2 mg and 5-Fluorouracil 100 mg daily for 1 week). Panendoscope revealed haemorrhagic duodenitis and shallow ulcers from gastric antrum to 1st portion of duodenum(A,B).

Case 1

A 56-year-old man had a massive type hepatocellular carcinoma (HCC) in right hepatic lobe with right portal vein tumour thrombosis (figure 1). He had one episode of massive upper gastrointestinal bleeding at 2nd hepatic arterial infusion chemotherapy (HAIC) and panendoscope revealed haemorrhagic duodenitis with duodenal bulb ulcer. In our hospital, a SDA that originated from the LHA was found at angiography, which was successfully embolised with a minicoil (figure 2) with the assistance of a 'Swan-neck configuration' microcatheter (Maestro, Merit)

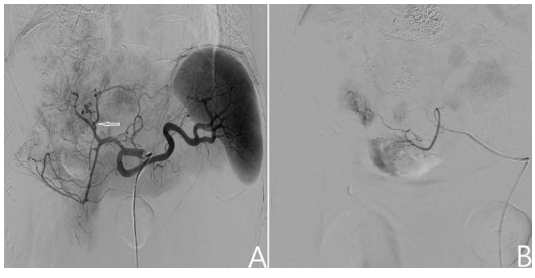

Figure 4 Celiac artery arteriography showed multinodular type HCC in bilateral lobes of liver. A SDA that originated from the LHA was identified (Arrow, A). SDA arteriography revealed staining of proximal duodenum and tumours in bilateral hepatic lobes (B). LHA, left hepatic artery; SDA, supraduodenal artery.

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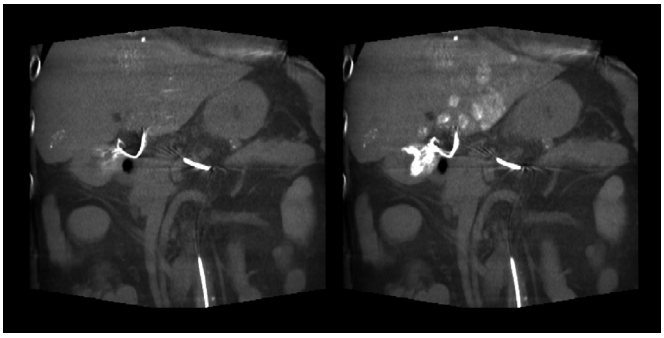

Figure 5 Angio-CT of SDA showed proximal duodenal wall enhancement and enhanced nodules in bilateral lobes of liver, which confirmed this artery to be the supraduodenal artery and parasitic vessel supplying the HCC as well. SDA, supraduodenal artery.

and proceeded with transarterial chemoembolization (TACE) and subsequent HAIC without identical complication.

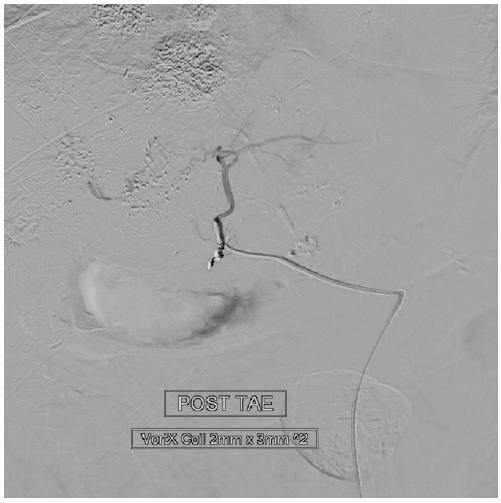

Figure 6 We successfully embolised the SDA with two 2–3 mm Vortx minicoils. SDA, supraduodenal artery.

Learning points

- Recognition of supraduodenal artery (SDA) variation to avoid iatrogenic duodenitis and peptic ulcer in liver-directed therapy.
- SDA may act as a parasitic vessel supplying the liver tumour.
- Cone-Beam CT/Angio-CT can be very effective to confirm origin of SDA from left hepatic artery.

Case 2

A 59-year-old man with recurrent HCCs in both hepatic lobes underwent 6th TACE followed by temporary HAIC. He had intractable epigastralgia after HAIC. Panendoscope revealed haemorrhagic duodenitis and shallow ulcers from gastric antrum to 1st portion of duodenum (figure 3). A SDA, that originated from the LHA, was identified (figure 4) and proven to supply the proximal duodenum by cone-beam CT (figure 5). It also acted as a parasitic vessel supplying the right lobe tumour. We successfully embolised the SDA with minicoils (figure 6) to prepare for next HAIC/TACE if clinically indicated.

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Patient consent Next of kin consent obtained.

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