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CLINICAL IMAGE

Successful hemostasis by percutaneous transhepatic cyanoacrylate injection for hepatic artery pseudoaneurysm causing hemobilia

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Abstract

A 73-year-old man, post-liver transplantation, was scheduled for ERCP to evaluate anastomotic biliary stricture. The patient developed massive bleeding from hepatic artery pseudoaneurysm. Angiography via femoral artery could not identified feeding artery of the pseudoaneurysm. Thus, trans-abdominal ultrasonography was performed and percutaneous transhepatic glue embolization successfully.

KEYWORDS

glue embolization, hemobilia, hepatic artery pseudoaneurysm, percutaneous transhepatic embolization

1 | CASE PRESENTATION

A 73-year-old man, post-liver transplantation, underwent ERCP to evaluate biliary stricture. Plastic stents were placed; unfortunately, severe pancreatitis with multiorgan failure developed. During recovery phase, the patient passed maroon stool with unstable hemodynamics. Emergency duodenoscopy demonstrated active bleeding per ampulla (Figure 1A). Diluted epinephrine injection failed to control bleeding, and intraductal bleeding was suspected; therefore, plastic stents were exchanged to a fully cover self-expandable metal stent to tamponade

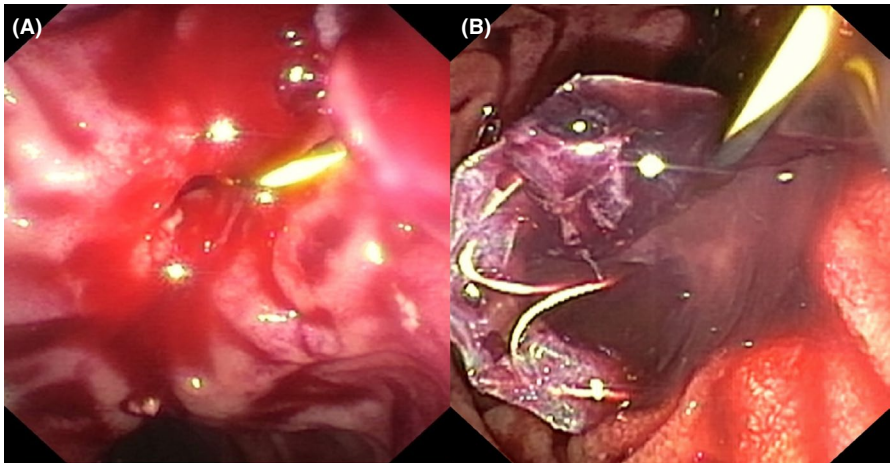

FIGURE 1 (A) Side-view duodenoscopy demonstrated large amount of clot and active bleeding per ampulla. (B) Side-view duodenoscopy demonstrated blood tinted bile via fully-cover self-expandable metal stent

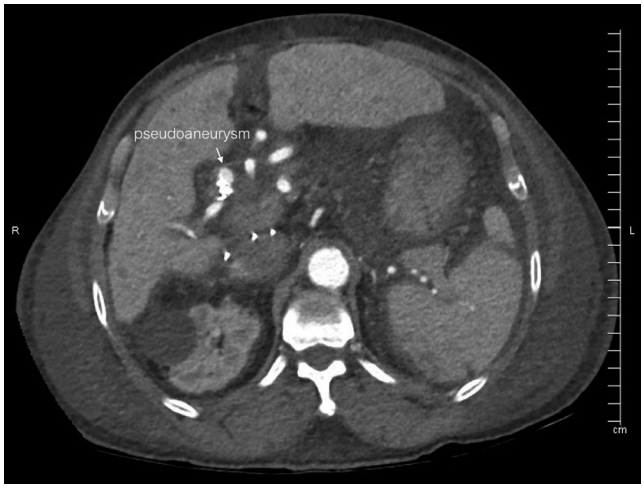

FIGURE 2 Computed tomography angiography revealed a 0.8 × 1.4-cm pseudoaneurysm of the right hepatic artery, located anteromedial to FCSEMS without active contrast extravasation

bleeding site. Bleeding appeared to slow down, but blood tinted bile was still observed (Figure 1B). An urgent computed tomography angiography revealed a 0.8 × 1.4-cm pseudoaneurysm of the right hepatic artery, located anteromedial to the stent without contrast extravasation (Figure 2); subsequently, an angiography via femoral artery was done but feeding artery of the pseudoaneurysm was not seen (Figure 3A). A catheter failed to negotiate the branch of right hepatic artery due to its small diameter with tortuous course; a guidewire placement to the upstream vessel beyond the pseudoaneurysm also failed, and thus, vascular stent placement was impossible. Subsequently, trans-abdominal ultrasonography was able to locate the pseudoaneurysm (Figure 3B). Then, percutaneous transhepatic glue embolization was performed, using a mixture of 1.5-ml N-butyl-cyanoacrylate and 1.5-ml lipiodol under fluoroscopic-guidance (Figure 3C). Glue

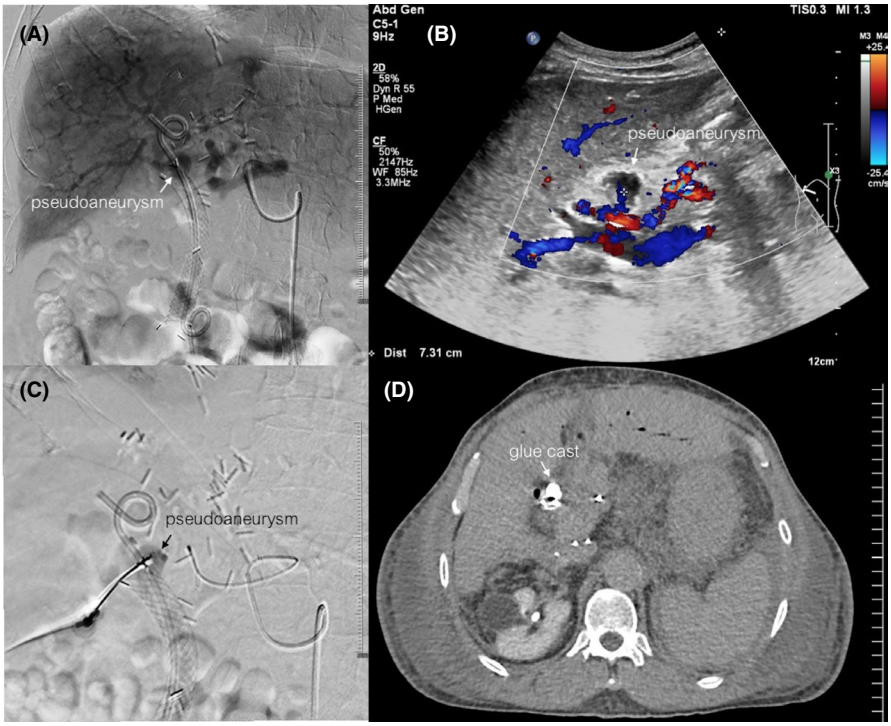

FIGURE 3 (A) Angiography via femoral artery with difficult to demonstrating feeding artery of the pseudoaneurysm. (B) Trans-abdominal ultrasonography visualized pseudoaneurysm. (C) Percutaneous transhepatic glue embolization was performed, under fluoroscopic-guidance via 22-G spinal-needle. (D) Glue cast completely obliterated the pseudoaneurysm sac without refluxing into feeding branch

cast completely obliterated the pseudoaneurysm sac without refluxing into feeding branch (Figure 3D) indicating successful hemostasis.

ACKNOWLEDGEMENT

None.

CONFLICT OF INTEREST

All the authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

RR served as principled author of the paper. TP and SK drafted the manuscript. TP, SK, SP, PP, WR, CC, and RR participated in the performance of the research. RR revised the manuscript critically for important intellectual content. All the authors read and approved the final manuscript.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in figshare.

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