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Gastro-intestinal haemorrhage (GIH), review of literature and current radiological management

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Aims and objectives

GIH is an emergency situation requiring a fast and timely diagnosis. We review the current literature and report our experience in the GIH diagnosis and interventional management.

Images for this section:

Fig. 1: DIGITAL SUBTRACTION ANGIOGRAPHY: Active gastrointestinal bleeding in a hemodynamically unstable 61-year-old man who presented with massive hematemesis that obscured endoscopic findings.

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Fig. 2: DIGITAL SUBTRACTION ANGIOGRAPHY: Angiogram obtained after injection of the hepatic artery shows a bleeding of the main branch.

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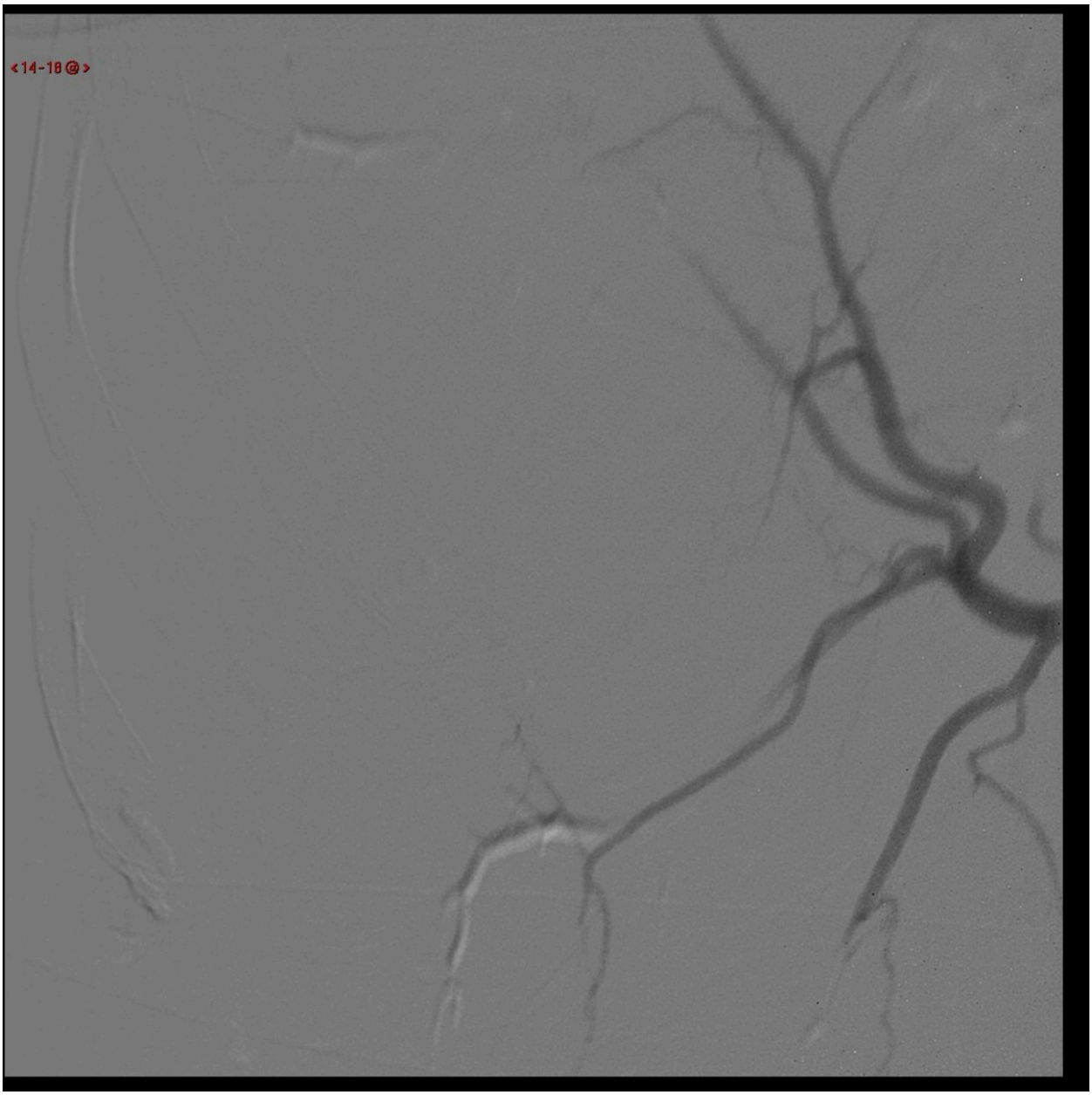

Fig. 3: DIGITAL SUBTRACTION ANGIOGRAPHY: post-embolization angiogram obtained during hepatic artery injection shows no bleeding, and successful microcoil-embozene embolization of the bleeding vessel.

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Methods and materials

74 consecutive patients with GIH (mean age 67.8y), from April 2011-September 2017), underwent to multiphasic CTA and-or DSA for imaging the site-size of bleeding, arterial/ venous origin, and visceral complications. The treatment was intra-arterial trans-catheter embolization, using coils, glue or others embolic agents. Patient's age, sex, aetiology of bleeding, on-set time of symptom, hemoglobin at presentation and rate of occlusion and ischemic complications were recorded and correlated using a multiple logistic regression analysis.

Results

46 CTA were performed for upper GIH (28 positive for active bleeding, 18 negative) and 28 for lower GI hemorrhage (17 positive for active bleeding, 11 negative); 30/46 (65.21%) of the uGIH patients and 21/28 (75.00%) for lGIH were successfully treated in DSA with good clinical recovery; 39.13% (18/46) of patients with upper GI bleed and 39.28% (11/28) of patients with lower GI bleed who had an initial negative CTA, did not rebleed without the need for radiological or surgical intervention. This difference was not statistically significant ($p = 0.05$). The relative risk of rebleeding, following a negative CTA, in lower GI bleeding versus upper GI bleeding patients is 0.55 (95 % confidence interval 0.32-0.95).

Conclusion

CTA is mandatory for assess the vascular state in order to detect arterial abnormalities or luminal extravasation of contrast. Failure of the endoscopy and persistent instability warrant angiography for minimally invasive and superselective embolisation. Failure of embolisation warrants surgical intervention.

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