LETTER / Gastrointestinal imaging

Pseudoaneurism of the cystic artery treated with hyperselective embolisation alone

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Pseudoaneurisms of the cystic artery are rare diseases. We report a case of pseudoaneurism of the cystic artery with an infectious origin treated with emergency embolisation alone.

Case

A 67-year-old man with diabetes, hypertension, arterial disease and alcoholism was hospitalised for haematemesis. His physical examination was normal, but laboratory tests showed considerable cytolysis and anaemia, without an inflammatory or infectious syndrome. The patient had been hospitalised two weeks earlier for febrile abdominal pain. During this episode, the ultrasound demonstrated a microlithiasic gallbladder with thickened walls for which the patient was given oral antibiotic therapy for two weeks (metronidazole and amoxicillin/clavulanic acid). The infectious and painful syndromes quickly improved. Upon admission, upper digestive fibroscopy was normal. The abdominal ultrasound showed a heterogeneous intravesicular structure without a posterior cone of shadow and without dilation of the biliary tract. The CT-scan showed a vesicular parietal thickening, perivesicular infiltration and a spontaneously hyperdense intravesicular content (Fig. 1) that was enhanced after injection of contrast material, corresponding to a pseudoaneurism of the cystic artery with a thin neck (Fig. 2).

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Immediately after the CT-scan, the patient’s clinical condition deteriorated with deglobulinisation and haemodynamic instability, which, in combination with many co-morbidities, led to a multidisciplinary decision to administer endovascular treatment. The gastrointestinal angiography which was performed urgently confirmed the diagnosis (Fig. 3). Hyperselective catheterisation of the neck was performed, then the sac of the aneurism was embolised with two non-fibered microcoils 5 mm in diameter with non-controlled detachment (Truffil®, Codman Johnson & Johnson Medical, Brussels, Belgium). The neck was occluded with two fibered microcoils 3 mm in diameter with controlled detachment (Interlock®, Boston Scientific, Boston, MA). The angiographic control confirmed the non-circulating character of the pseudoaneurism and the obliteration of the neck (Fig. 4). The patient rapidly improved. The CT-scan on D15

Discussion

Pseudoaneurism of the cystic artery, which is a rare disease, typically manifests via haemobilia, but can also be demonstrated via haemoperitonitis [1–3]. The most common aetiology is iatrogenic, followed by infections and neoplasia, with poorly understood aetio-pathogenesis [2,4,5]. Upper
Figure 5. CT-scan with injection of contrast material at D15 postemboLisation. Thin MIP reconstructions. Disappearance of the extravasation of the contrast material.

Gastrointestinal fibroscopy is normal in half of cases, as the pseudoaneurism is often partially thrombosed, and its bleeding is intermittent [6]. The ultrasound demonstrates an intravascular mass with accelerated resistant arterial flows [5]. However, it can be difficult to see, as it can be partially thrombosed or hidden by a vesicular macrolithiasis [1,2]. In our case, the lack of visualisation was due to the heterogeneity of the vesicular content and the infiltration of the gallbladder space. The CT-scan showed extravasation of contrast material at the expense of the cystic artery, confirming the diagnosis. It also made it possible to plan the treatment procedure. Angiography is only indicated before a treatment procedure [6].

Cholecystectomy is still the treatment of choice. However, haemodynamic instability or co-morbidities make surgery risky. As in our case, therapeutic angiography has a role here, by making a shorter and less risky procedure possible [4]. Several cases of embolisations have been reported, most of them associated with a surgical procedure. The originality of our article resides in the use of embolisation alone in an infectious context with clinical hindsight of 12 months [1,2,7,8]. The embolisation techniques vary depending on the authors [2,9]. Microparticles are mainly used. The use of microcoils is associated with a higher risk of secondary ischaemia [8,10]. A single case of treatment with percutaneous thrombin was reported [3].

The main risk taken with this treatment is the persistence of the infection, as cases of secondary vesicular necrosis due to ischaemia are rare [10]. It is therefore recommended that cholecystectomy be performed after a waiting period [5,10]. The follow-up examination should confirm the end of bleeding, the absence of re-permeabilisation and the absence of a persistent infection. Doppler ultrasound makes it possible to achieve all of these criteria without radiation. Imaging with sections can be used as second line imaging [10]. Therefore, our case confirms the possibility of a treatment with embolisation alone, with hindsight of 12 months.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

References