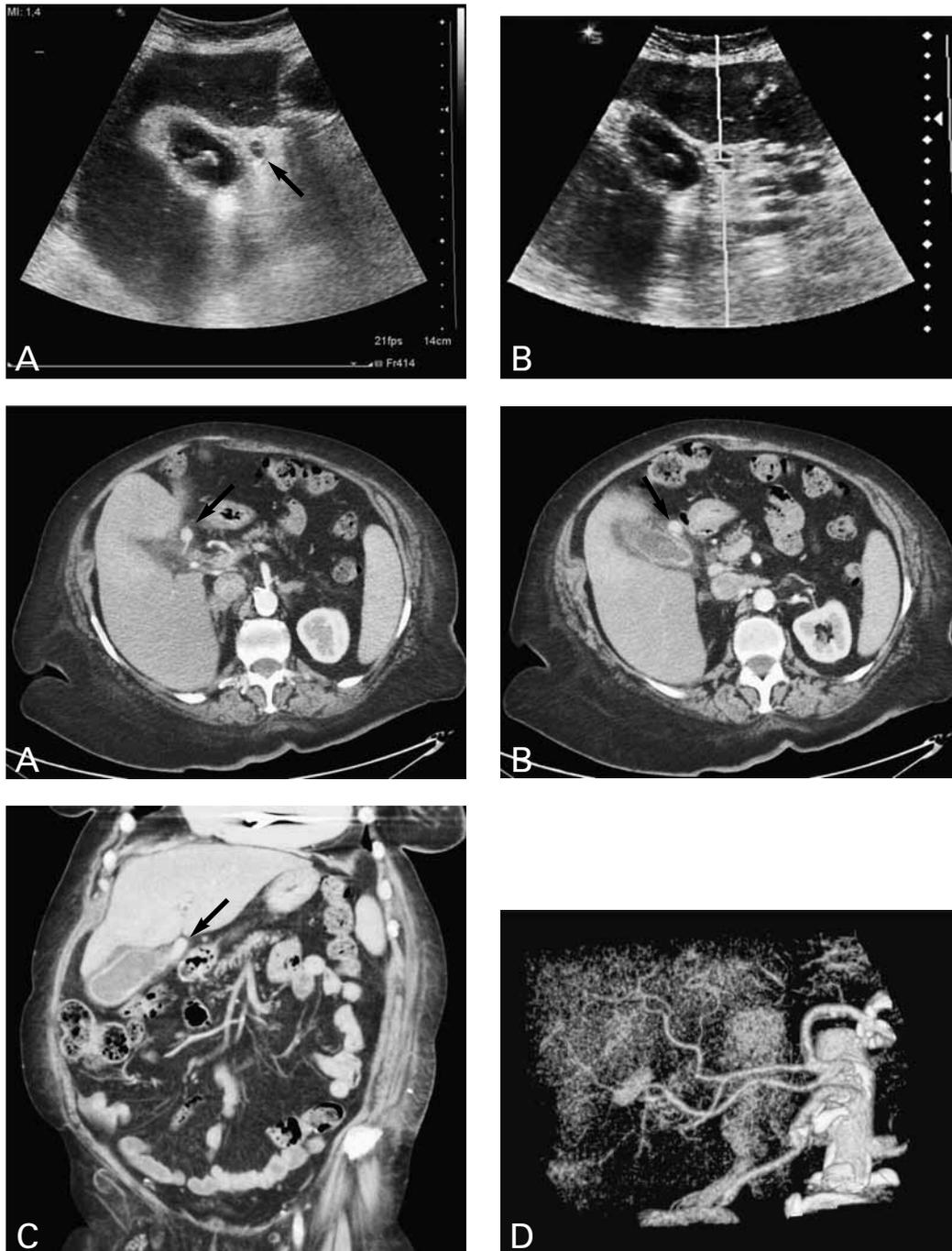


# ACUTE CHOLECYSTITIS WITH PSEUDOANEURYSM OF THE CYSTIC ARTERY

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**Key-word:** Aneurysm, abdominal

**Background:** A 74-year-old woman was admitted to the emergency department with severe epigastric pain, nausea and dyspnea. On physical examination the epigastric region was tender.



	1A	1B
Fig.	2A	2B
	2C	2D

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## Work-up

Ultrasonography of liver and gallbladder (Fig. 1A, arrow) shows distended gallbladder with multiple gallstones and marked wall thickening. An echolucent nodular lesion is embedded in the thickened wall of the gallbladder. On color-Doppler imaging of the hypoechoic nodule in the wall of the gallbladder (Fig. 1B), a subtle arterial flow is detected in the cystic lesion.

Contrast-enhanced abdominal CT scan at the level of the upper abdomen (Fig. 2) shows on axial images (A, B, arrow) and on reformatted image in the coronal plane (C) thickened wall of the gallbladder, pericholecystic fat stranding and a strong-enhancing nodule (2 cm x 1 cm) embedded in the thickened wall of the gallbladder. This nodule is in contact with the cystic artery. Fig. 2 D is the angiographic reconstruction of the upper abdominal vessels (arrow).

## Radiological diagnosis

Based on the findings on (color-Doppler) ultrasonography and CT scan, the diagnosis of *pseudoaneurysm of the cystic artery complicating acute cholecystitis* was made. Careful laparoscopic cholecystectomy was performed with successful resection of the pseudoaneurysm.

## Discussion

Pseudoaneurysm of the cystic artery is a rare entity. The majority of cases are complications of laparoscopic cholecystectomy due to excessive use of electrocautery during the dissection, causing thermal injury to the vascular wall. It is also described as a complication of acute or chronic cholecystitis, where it is believed to develop from erosion of the inflamed gallbladder into the wall of the cystic artery. Although the incidence of acute cholecystitis is high, cystic artery pseudoaneurysm remains uncommon, presumably because the surrounding inflammatory process leads to early

thrombosis of the cystic artery. Pseudoaneurysm of the cystic artery can be an uncommon cause of hemobilia. These patients present with the Quincke's triad of gastrointestinal bleeding, right upper quadrant pain and jaundice. Imaging is important because delayed diagnosis can lead to severe complications such as hypovolemic shock due to intra-peritoneal bleeding. A correct diagnosis is also important before surgery. On ultrasound the pseudoaneurysm can easily be found as a anechoic rounded area within a thickened gallbladder wall. Color Doppler may show a pulsatile flow, although this is not always easy to detect. The diagnosis can be accurately made by contrast-enhanced CT scan. CT shows a strong enhancing lesion in contact with the cystic artery and wall. This modality should replace arteriography for diagnosis. Some authors however combine a diagnostic and therapeutic arteriography with embolisation of the lesion. The latter should be the treatment of choice in the presence of a severe hemorrhage. Nevertheless in most of the cases laparoscopic cholecystectomy is performed.

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