Biliary Flow in Septate Gallbladder on Hepatobiliary Scintigraphy with SPECT/CT

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Septate gallbladder is in the shape of an hourglass and is characterised by the presence of a transversely oblique septum that separates the gallbladder fundus from the rest of the body. The septum is most probably congenital in origin and bears a minute to moderate opening that connects the two isolated chambers [1]. Septate gallbladder has not been well documented because it is usually asymptomatic or discovered accidentally during the evaluation of abdominal pain [2]. Ultrasonography, computed tomography, or MRI is usually applied to detect the morphological abnormalities [3], but these modalities have limitations in the delineation of biliary flow or assessment of the function of septate gallbladder. Once the bile has been made visible through radiolabeling with Tc-99m hepatic iminodiacetic acid analogues (Tc-99m mebrofenin), it should theoretically be possible to investigate functional abnormalities associated with bile formation and flow [4]. Recently, the hybrid single-photon emission computed tomography/computed tomography (SPECT/CT) systems have been widely used for improving anatomical certainty in interpretation.

Here, we demonstrate a case of the septate gallbladder in which the flow of bile was clearly shown by Tc-99m

mebrofenin hepatobiliary scintigraphy with the hybrid SPECT/CT systems (Figs. 1 and 2).

Fig. 1 A 47-year-old woman complained of intermittent colicky abdominal pain in the right upper quadrant for about a year. Physical examination and laboratory studies (complete blood count, liver function tests, and electrolytes) revealed no abnormalities. Tc-99m mebrofenin hepatobiliary scintigraphy was performed. The image showed a small and unusual morphology of the gallbladder (arrow) 45 min after the intravenous administration of 185 MBq (5 mCi) Tc-99m mebrofenin. However, the intestinal excretion was normal 60 min after ingestion of a fatty meal

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Fig. 2 The contrast-enhanced computed tomographic image (a) showed an hourglass-shaped gallbladder with transverse septum. The gallbladder wall of the fundus was evenly thickened by chronic inflammatory change. There were no gallstones or dilatation of the bile ducts, except for some sludge adjacent to the septum. An additional hybrid single-photon emission computed tomography/computed tomography (b) was performed 60 min after the tracer injection. The image showed that the filling of the proximal part of the gallbladder was normal, but no tracer migration was seen in the fundal chamber.

Conflict of interest The authors declare no conflict of interest.

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