

Isolated agenesis of the gallbladder

To the Editor

The case report "Isolated agenesis of the gallbladder" by Chopra et al in Saudi Med J 2003; 24: 409-410, is a milestone for being the first such reported case in the Middle East. I wish to seek some clarifications in this regard and also make some brief comments. The authors have used Technetium-99m hepatic iminodiacetic acid; however, it is not clear if they have used Mebrofenin, Disofenin or one of the older iminodiacetic acid derivatives. Hepatic clearance in the images is suggestive of either Mebrofenin or Disofenin being used. Did they contemplate using Sinclaide or Cholecystokinin or morphine at any stage during the study.¹ I personally feel when reporting such scans it is better to use a terminology of "non visualization" of gallbladder instead of "non functioning gallbladder." The expression of non-visualized gallbladder will include the possibility of the rare²⁻⁶ condition of agenesis of gallbladder in the differential diagnosis. There are various causes of non-visualization of gallbladder other than cholecystitis,⁷ which is included in **Table 1**. Prudence does not demand an extensive dissection or laparotomy for locating an ectopic gallbladder, however, the authors claim to avoid this procedure purely on the strength of evidence in ultrasonography and hepatobiliary scintigraphy sounds preposterous. There is wide interpersonal and intrapersonal variance in reporting ultrasonography of hepatobiliary system.⁸ Paradoxically, even the patient discussed in this case report had 2 ultrasonography examinations, in one of which the patient was reported to have gallstones.

Table 1 - Causes of non-visualization of gallbladder on hepatobiliary scintigraphy.

1. Acute cholecystitis
2. Chronic cholecystitis (with older iminodiacetic derivatives a delayed visualization at 1-4 hours after injection of isotope was possible)
3. Patient who is not fasting and has eaten within 2-5 hours of isotope injection
4. Patient who has prolonged fasting for 24-48 hours prior to isotope injection
5. Patient undergoing intravenous hyperalimentation
6. Severe intercurrent illness, acute pancreatitis, severe liver disease
7. Agenesis of gallbladder
8. Biliary atresia
9. Cholecystectomized patients

Hepatobiliary scintigraphy detects an absent gallbladder from its normal location or may even detect its presence in close vicinity, but it cannot visualize a gallbladder in ectopic retroperitoneal, retrohepatic, and retropancreatic locations due to overlying gut and liver activity. Scintigraphic diagnosis of ectopic gallbladder in such situations will need authentication by a surgical exploration.

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Reply from the Author

As it was correctly recognized by Dr. Shoukat Khan, Mebrofenin tracer was used in imaging our patient. Agents like Sinclaide; Cholecystokinin or morphine was not used as almost all the tracer had cleared from liver within one hour of imaging. "Non-visualization" may be a better term than "non-functioning" gall bladder; however, it is just a descriptive term and does not help the clinician in further management. We preferred using the term "non-functioning" gallbladder as this helped us to narrow down the possibilities to chronic cholecystitis, acute cholecystitis and agenesis of gallbladder. The other causes of non-visualization of gallbladder on hepatobiliary scintigraphy, as elaborated very nicely in the table, were excluded on clinical grounds.

Dr Khan has raised a very interesting question regarding the criteria to be followed for the diagnosis of agenesis of gallbladder. The diagnosis of this condition is basically by exclusion (excluding the presence of gallbladder either in normal or ectopic sites). The gold standard so far has been extensive surgical dissection to rule out gallbladder in its ectopic positions. With recent advances in radiology, we feel that this is avoidable. Various techniques such as endoscopic retrograde cholangiopancreatography and magnetic resonance cholangiopancreatography in addition to intraoperative cholangiography and ultrasound have been recommended by various authors.

In our patient the tracer had been cleared from the liver, the gallbladder being obscured in the ectopic sites is; hence, unlikely. We agree that an additional investigation such as MRCP would have further confirmed our diagnosis.

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