

Letter to the Editor: How Is Gallbladder Metastasis From Renal Cell Carcinoma Depicted on Ultrasound?

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To the Editor,

I am interested in ultrasound diagnosis of the depth invasion of gallbladder carcinoma (GBC). I read the case report article by White et al.¹ with great interest. However, the title beginning with “unexpected” does not seem quite appropriate. The authors do not provide a detailed discussion of the preoperative imaging diagnosis for the presented case concerning the term “unexpected.” Therefore, I have a few queries for the authors.

Regarding a gallbladder polyp, it is crucial to determine whether it is malignant or benign, and for a malignant polyp, it is important to ascertain the depth of GBC invasion. In the diagnosis of a gallbladder polyp, ultrasound is the most useful imaging method. Although the authors documented that ultrasound showed a pedunculated 2 cm lesion within the gallbladder body, Figure 1¹ depicts not a pedunculated polyp with a stalk but rather a sessile polyp. Could the authors please provide ultrasound images of a pedunculated polyp with a stalk and a loupe view of the resected specimen? The readers would greatly appreciate it if the authors could include these in their responses because ultrasound and pathological correlation are essential.

While the authors provided a list of options for the lesion, they did not provide detailed documentation. Could the authors please provide additional information with distinguishing characteristics? Firstly, concerning the gallbladder polyp, it is not a specific pathological disease name. What exactly is meant by “gallbladder polyp”? Could it potentially be a cholesterol polyp? If so, did the polyp exhibit characteristics of a cholesterol polyp on ultrasound imaging? Secondly, gallbladder adenomyomatosis is typically diagnosed by the presence of small cysts in the polypoid lesion of the gallbladder. However, Figure 1¹ did not appear to depict any cysts within the gallbladder polyp. Thirdly, for a sessile lesion measuring 2 cm in diameter, the suspicion of GBC is high. Could the authors please explain as to why gallbladder malignancy is considered less likely in this case?

A pedunculated GBC is typically categorized as an early-stage (T1a) carcinoma.² However, in the case of sessile

carcinomas, their staging can range from T1 to T3 based on ultrasound findings. To establish a definitive diagnosis, various imaging modalities such as Doppler ultrasound, contrast-enhanced ultrasound, endoscopic ultrasound, pre-contrast CT, and contrast-enhanced CT are often required. Additionally, in preoperative diagnosis, determining the depth of carcinoma invasion is critical. While I believe in the effectiveness of differential diagnosis between malignant and benign gallbladder tumors using contrast-enhanced ultrasound (CEUS), I have reservations about its utility in determining the invasion depth of GBC. No researchers have yet demonstrated the preoperative diagnosis of GBC invasion depth through CEUS or established CEUS criteria for T2 GBC. Therefore, at present, CEUS may not provide valuable information for surgical planning. In contrast, the presence or absence of a deep hypoechoic area and the characteristics of the outermost hyperechoic layer are critical factors in ultrasound diagnosis of GBC invasion depth.³ I have previously reported that a polypoid gallbladder tumor with a deep hypoechoic area on ultrasound suggests a T2 GBC with no relation to the outermost hyperechoic layer,^{3–5} with exceptions being rare circumstances.^{6,7}

Although gallbladder metastasis from renal cell carcinoma (GBMRCC) is a rare condition, Hisa et al.⁸ conducted a chronological study of a case involving GBMRCC. In this case, the metastasis presented as a sessile nodule with a constricted base and a surface covered in necrotic debris. Over 8 months, the diameter of the mass increased from 8 to 15 mm. Furthermore, the previously wide base became constricted, and the tumor surface gradually exhibited irregularities, with an increase in tumor mass covered by a heterogeneous, thick, hyperechoic layer on ultrasound. Suspecting GBMRCC, open cholecystectomy was performed. Ultrasound and pathological correlation are provided in the article. Consequently, Hisa et al.⁸ concluded that a polypoid nodule in the gallbladder, displaying a heterogeneously thick, hyperechoic surface layer, might be useful in differentiating GBMRCC from primary GBC.



Willis⁹ conducted a review of hematogenous metastases from various origins and speculated on their development as follows: initially, they manifest as small, flat nodules in the subepithelial tissue of the gallbladder, and as they grow, they often acquire a pedunculated morphology. Furthermore, the epithelial covering may undergo desquamation and incrustation, attributed to the precipitation of deposits derived from bile.

What aspect of the presented case was particularly “unexpected”?

Ethics Approval and Consent to Participate

All procedures followed were compatible with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and later versions.

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