The gallbladder as the first site of metastatic disease in a patient with melanoma

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The first case of primary melanoma of the gallbladder was published in 1907, based on autopsy findings of 40-year-old female.1 There have only been 20 further cases of primary melanoma of the gallbladder published since that time. Secondary melanoma, by comparison, is much commoner, accounting for one-half of the metastatic tumors observed in this organ.2 We present this case to highlight the occurrence of melanoma metastatic to the gallbladder and to promote earlier investigations and/or interventions in patients with biliary symptoms who have a history of melanoma.

CASE

A 62-year-old woman presented in September 2004 with changes in a long-standing mole on her left thigh. Microscopically she was found to have a 2.2 mm-thick superficial spreading melanoma, Clark level 5 with no regression, ulceration or lymphovascular invasion. Wider excision was performed and a CT scan confirmed no evidence of metastatic disease. Past medical history included carcinoma of the left breast in 1995 treated with wide local excision, adjuvant chemotherapy and radiotherapy. To date, she remains recurrence-free and has been discharged from the breast clinic. She has been followed-up regularly for the melanoma under shared care with oncologists and dermatologists. Early in 2007 she complained of right upper abdominal symptoms but no signs of recurrence on examination. An ultrasound showed a 2.9-cm solid mass within the gallbladder with cystic elements within it (Figure 1).

Appearances were noted to be unusual and malignancy could not be excluded but was probably a large polyp. There were further filling defects within the gallbladder, but these looked more like sludge than tumor. No other solid organ abnormalities were seen.

She underwent an elective laparoscopic cholecystectomy in March of 2007 and the histology showed that the lumen of the gallbladder was filled with highly cellular material, some pleomorphic, some showing a more spindle appearance. There was hemorrhage in some areas and marked pigmentation. Immunocytochemical staining was positive for Mel C, HMB45 and S100 consistent with metastatic melanoma. She underwent further CT staging postoperatively. Unfortunately, this showed a mass in the left side of the abdomen, inferior to the lower pole of the left kidney. Her scans were reviewed at a second center and further indeterminate areas of disease in the GI tract were identified. These were successfully resected and she was well and under clinical follow-up at the time of writing.

DISCUSSION

Autopsy series have demonstrated that metastasis of the gallbladder may occur in 4% to 20% of patients with melanoma. Despite this statistic, it is rare for metastatic melanoma involving the gallbladder to cause symptoms during life.3 The time interval between the diagnosis of the primary lesion and the gallbladder metastases varies from a few months to 13 years with often little difference in the presentation between cases of primary and metastatic disease.1

The etiology of primary gallbladder melanoma is thought to be the migration of melanocytes during embryogenesis from the neural crest to endodermic tissues; for secondary gallbladder melanoma it is the propensity toward hematogenous spread.2,4 Differentiation between the two can be difficult due to the similarities of the findings. The usual appearance of the metastatic lesion is a multiple infiltrative lesion, but the presence of a single polypoid tumor is not unusual.4 The largest cohort is from Duke University Medical Center, which published a series of 19 patients with melanoma metastatic to the gallbladder.1 The majority (15 of 19) were men. The site of the primary lesion was the trunk in 12. The commonest histological subtype was superficial spreading. They found that 14 had clinical symptoms, the most common complaint being of right upper quad-
rant or epigastric pain that mimicked cholecystitis. This is thought to be due to obstruction of the cystic duct by the tumor mass.\(^2\)

As a result of the rarity of gallbladder melanoma cases, the diagnosis is often not suspected preoperatively.\(^2\) Ultrasonic features may help preoperatively to diagnose melanoma metastases. In a British study, ultrasonograms were taken of the gallbladders of 464 consecutive melanoma patients and it was found that 4.1% had appearances typical of gallbladder metastases. The ultrasound characteristics were those of single or multiple hypoechoic masses greater than 1 cm in diameter and attached to the gallbladder wall.\(^5\) Gallstones did not seem to play a significant role in the pathogenesis of the tumor. The mainstay of therapy is surgical excision, with no clear role for adjuvant modalities.\(^1\) If discovered as an isolated metastasis, resection can occasionally lead to prolonged survival.\(^1,3,4\) However, this is uncommon, the majority having more widespread metastases.\(^2\) In the Duke series only two of the patients had metastatic disease limited to the gallbladder.\(^1\) The surgical intervention may still be a worthwhile procedure, even in the presence of disseminated disease,\(^2\) but despite intervention the prognosis remains poor.\(^1\)

### REFERENCES