

CLINICAL CASE

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## A case of melanoma metastatic to the gallbladder and the common bile duct with clinical presentation of obstructive jaundice and bilirubinemia

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### Summary

Cutaneous melanoma is known to have the capacity to metastasize to virtually any organ. Because melanoma metastases to the gallbladder and the extrahepatic bile ducts are usually clinically asymptomatic, there are only few reports on this topic in living patients. We describe a case of

melanoma metastatic to the gallbladder and the common bile duct presenting with obstructive jaundice and bilirubinemia.

**Key words:** bilirubinemia, diagnosis, metastatic melanoma, obstructive jaundice

### Introduction

Malignant melanoma has a propensity to disseminate widely in an unpredictable way. Metastases to the gastrointestinal tract are frequently reported. In an autopsy study by Das Gupta and Brasfield, in 125 cases of primary melanoma gallbladder metastases were found in 15%, colonic metastases in 20%, gastric metastases in 24%, and small intestinal deposits in 56% of the patients [1]. Although metastases to the gallbladder and the bile ducts are frequently reported in autopsy studies, they are usually clinically asymptomatic, with only 19 reported cases in the literature till 1998. We describe a patient who presented with obstructive jaundice and bilirubinemia from melanoma metastatic to the gallbladder and the common bile duct.

### Case presentation

A 59-year-old man was admitted with the diagnosis of obstructive jaundice. Twenty days before his admission he had noticed dark urine and progressive jaundice. In the first few days the stools were dark, later becoming pigmentary acholic. No abdominal pain, nausea, vomiting or food intolerance were reported. He had lost 3 kg over a month. The patient gave a history of surgical resection of cutaneous melanoma in the right temporal region 6 months ago in another hospital. He underwent local excision with adequate margins and regional lymphadenectomy. Histologically the cutaneous lesion was interpreted as nodular melanoma, Clark's level III, Breslow thickness 1.2 mm. One of the excised regional lymph nodes harbored metastases from melanoma. He subsequently received 2 courses of chemotherapy with imidazole carboxamide (DTIC) 250 mg/m<sup>2</sup>/day for 5 consecutive days.

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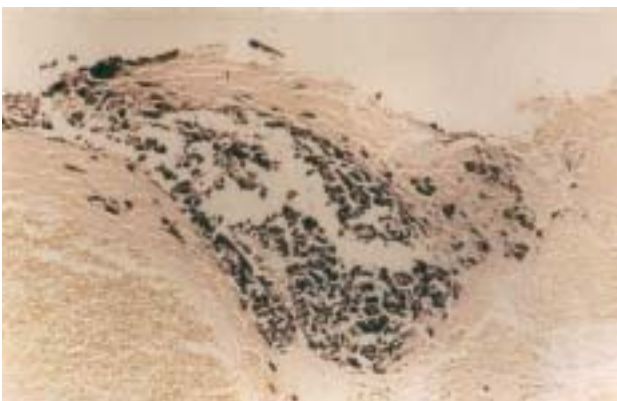
### Physical examination

Afebrile, jaundiced. Abdominal wall soft, painless. Mild hepatomegaly was noted (1 cm under the costal arch, elastic consistence, painless). Rectal examination revealed acholic stools.

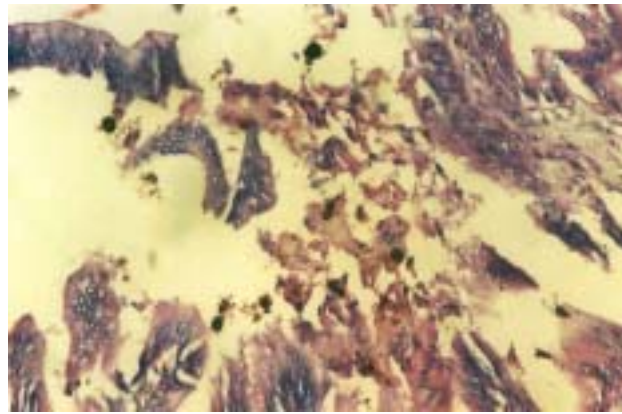
### Laboratory tests

Hemoglobin 11.8 g/l, erythrocyte count  $3.8 \times 10^9/l$ , erythrocyte sedimentation rate 26 mm. Total serum bilirubin 297.5 nmol/l (normal up to 8.5 nmol/l), alkaline phosphatase 1075 U/L (normal up to 279 U/L). Fasting blood sugar normal. Abdominal ultrasonography showed hepatomegaly (180 mm on the medio-clavicular line), fatty degeneration and signs of intra-hepatic cholestasis, and dilatation of the common bile duct. No stones were seen. The gallbladder showed thickened wall and signs of microlithiasis. The pancreas was without abnormalities. An abdominal CT scanning confirmed the results of ultrasonography. CT scanning of the thorax and head and neck region revealed no abnormalities.

After adequate preoperative preparation the patient underwent operation. Hepatomegaly was found and the gallbladder had thickened wall and was full of bile mud. The common bile duct was dilatated (20 mm). At choledochotomy, the extrahepatic bile ducts were filled of clotted blood, causing obstruction of the Vater's papilla and obstructive jaundice. After the extraction of the coagulum and the lavage of the bile ducts, active bleeding from a polyp 2.2 mm in size, located at the front wall of the distal common bile duct, was noticed. Excision of the polyp along with a part of the wall of the common bile duct with adequate margins was carried out. Frozen sections of the polyp showed a polypoid formation with a thin fibrous capsule and massive haemorrhage in the stroma. A cholecystectomy and choledochoduodenoanastomosis was performed. The final histological sections showed bright cells with large vesicular nuclei in groups or forming nests, in a material of blood and fibrin. The cells were lavishly laden with brown-black pigment suspected for melanin (Figure 1). The histo-



**Figure 1.** Melanoma cells lavishly laden with brown-black pigment suspected for melanin (H&E $\times 200$ ).



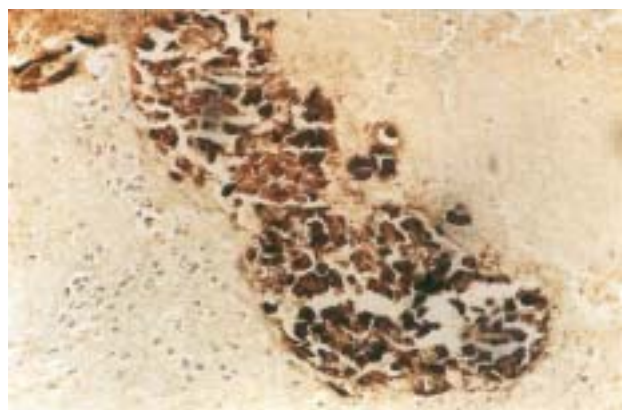
**Figure 2.** Positive S-100 protein staining ( $\times 200$ ).

logical study showed positive staining for melanin. Perls' stain was negative for bile pigment. Immunohistochemically the cells were S-100 positive (Figure 2). The gallbladder mucosa showed polypoid hyperplasia. Single tumor cells with melanin were detected in separate papillae (Figure 3). In conclusion, the histological diagnosis was melanoma metastatic to the gallbladder and the common bile duct.

There were no complications in the postoperative period. The patient was discharged in a good condition without jaundice. Twelve months after surgery he developed persistent headache. A brain CT scanning detected multiple metastases in the brain. Four months later the patient died.

### Discussion

Malignant melanoma has a propensity for hematogenous and lymphatic spread to any organ in the body. Nowadays it is considered that the metastatic



**Figure 3.** Melanin-positive cells in separate papillae ( $\times 100$ ).

process is probably facilitated by the immunosuppressive effect of the tumor cells which suppress cellular immunity. According to Backman, melanoma metastatic to the gallbladder accounts for 50% of the cases with tumor metastases to this organ [3]. Clinically, these tumors are usually asymptomatic, as evidenced by the discrepancy between the number of published case reports and the rate of detection at autopsy [5-8]. The most common clinical presentation of the disease is right upper abdominal pain which mimics acute cholecystitis. Very rarely metastatic melanoma presents with bilirubinemia. Bleeding in these cases usually results from ulceration of metastases. Usually, bleeding is not significant. In our case the bleeding was more intense in the beginning and the patient defecated dark stools twice. Later, when the clotted blood compressed the bleeding tumor lesion, the bleeding stopped, but caused obstructive jaundice. In a review of the literature, we found only 3 cases of melanoma metastatic to the bile ducts, causing bilirubinemia and icterus [9-11]. The difference in our case was the simultaneous presence of metastases both to the gallbladder and the bile ducts.

Ultrasonography, oral cholecystography, intravenous cholangiography, endoscopic retrograde cholangiography and computed tomography are employed for the diagnosis of melanoma metastases. Ultrasound is the most useful tool in assessing pathological lesions in the gallbladder. Polypoid lesions in the gallbladder have atypical appearance by ultrasound. Holloway and King advocate careful examination of the gallbladder in patients with primary cutaneous melanoma [12]. In our case, imaging methods did not help towards the correct diagnosis, probably due to the small size of the tumor.

There is limited experience in the management of metastatic melanoma of the gallbladder and the

bile ducts. According to most of the authors, surgery is indicated for patients with isolated resectable tumors. In these cases the prognosis and survival improve significantly. The rest of the patients require chemotherapy and symptomatic treatment [2]. We also do share that opinion.

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