Acta clin Croat 2001; 40:287-291 Professional Paper

SIMULTANEOUS OCCURRENCE OF PRIMARY SKIN MELANOMA AND ITS METASTASIS TO THE AMPULLA OF VATER: A CASE REPORT[1]

Božo Krušlin, Majda Vučić, Miroslav Bekavac Bešlin, Jakša Filipović Čugura and Mladen Belicza

Ljudevit Jurak University Department of Pathology and University Department of Surgery, Sestre milosrdnice University Hospital, Zagreb, Croatia

SUMMARY – Malignant melanoma has the capability to disseminate widely to almost any organ in the body. The gastrointestinal tract is frequently involved by this tumor. Reports on metastatic melanoma of ampullary region and biliary system are rare. A 46-year-old male patient presented with obstructive jaundice. Pathohistologic analysis of endoscopic biopsy of the ampulla of Vater suggested metastatic melanoma. Two weeks before, the patient had undergone surgery due to an ulcerated tumor of the index finger of the right hand. Pathohistologic analysis showed acral melanoma (Clark V, Breslow V). Subsequently, Whipple resection of the pancreas, duodenum, and distal bile duct revealed a metastatic melanoma in the ampulla of Vater extending to the duodenal wall. The patient had brain metastasis at 9 and then again at 17 months after the diagnosis, and died 20 months after initial presentation. Autopsy was not performed.

Key words: *Melanoma, complications; Melanoma, secondary; Vater's ampulla; Common bile duct neoplasms, complications; Case report*

Introduction

Malignant melanoma accounts for less than 5% of all malignant primary skin tumors, but causes more than 75% of skin cancer deaths. Metastatic spread to regional lymph nodes and distant sites is very common[1-3]. Metastases usually occur within 5 years from the diagnosis, while late metastases beyond 10 years are very rare[4-6]. The gastrointestinal tract is frequently involved by metastatic melanoma, as shown by clinical and autopsy studies[7-11]. However, there are rare reports on metastatic melanoma of ampullary region and biliary system[12-18]. We present a patient with primary skin melanoma who simultaneously developed metastasis to the ampulla of Vater and later to the brain.

Case Report

A 46-year-old male patient presented with symptoms of obstructive painless jaundice, dark urine, and two or three dark stools daily during the preceding three weeks. There was no history of drug ingestion, transfusions, or needle exposure. He had no previous complaints suggestive of hepatobiliary disease, peptic ulcer or pancreatitis. The patient denied excessive alcohol intake but smoked up to 60 cigarettes *per* day. Physical examination revealed that the patient was deeply jaundiced and afebrile. The liver, spleen and gallbladder were not palpable. There were no signs of chronic liver disease, and no ascites was observed. Two weeks before admission, the patient had an ulcerative, suppurative process of the index finger of the right hand that lasted for 6 months. Probatory biopsy of the presumably inflammatory lesion was performed. Initial biopsy showed

Correspondence to: Božo Krušlin, M.D., Ljudevit Jurak University Department of Pathology, Sestre milosrdnice University Hospital, Vinogradska 28, HR-10000 Zagreb, Croatia

Received April 25, 2001, accepted in revised form September 28, 2001

[1] Presented in part at the Fifth International Conference on Melanoma, Venice, Italy, February 28 – March 3, 2001

it to be a melanoma, and surgical amputation of the distal phalanx was performed. Pathohistologic analysis showed a tumor measuring up to 3 cm in the largest diameter, whereas histology defined it to be acral melanoma (Clark V, Breslow V) spreading to the underlying bone (Fig. 1).

On admission, laboratory findings showed serum bilirubin concentration of 150 mmol/L, alkaline phosphatase of 293 U/L, and positive urine bilirubin, while other findings were within the normal limits or slightly increased. Serum level of aspartate transferase was 28 U/L, alanine transferase 69 U/L, G-glutamyl transpeptidase 33 U/L, creatine kinase 52 U/L, lactate dehydrogenase 189 U/L, and serum amylase 41 U/L. Erythrocyte sedimentation rate was 25, hemoglobin 138 g/L, and red blood cell count $4.39x10^{12}$/L. Leukocyte count was $8.3x10^{9}$/L and platelet count $361x10^{9}$/L. Prothrombin and partial thromboplastin times were normal.

On esophagogastroduodenoscopy, two small polypoid lesions were seen in the descending duodenal bulb. On abdominal ultrasonography, marked dilatation of the common bile duct, intrahepatic bile ducts and pancreatic duct was observed. A small gallstone measuring up to 0.7 cm was found in the gallbladder. The liver was homogeneous. Computed tomography was not performed for technical reasons. Endoscopic retrograde cholangiopancreatogram showed almost complete obstruction of the distal part of the common bile duct due to irregular, stenosing mass. Endoscopic biopsy of the ampulla of Vater was performed. Six small tissue pieces measuring up to 0.4 were obtained for pathohistologic analysis. Microscopically, the specimens consisted of duodenal mucosa and submucosa infiltrated by tumor tissue. The neoplastic cells were pleomorphic with a moderate amount of cytoplasm, large, hyperchromatic nuclei, and few mitoses (Fig. 2). Immu-

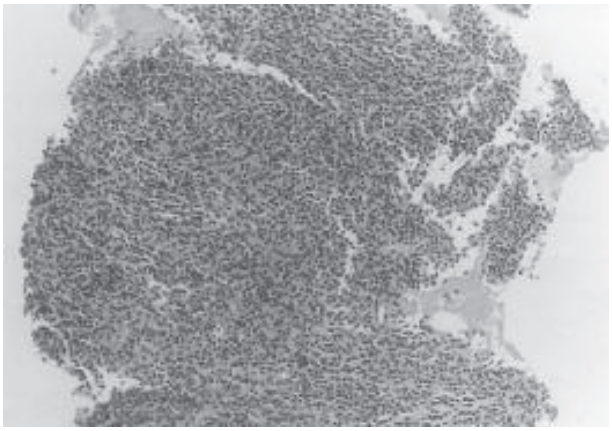

Fig. 1. Acral melanoma of the index finger of the right hand (H&E x100).

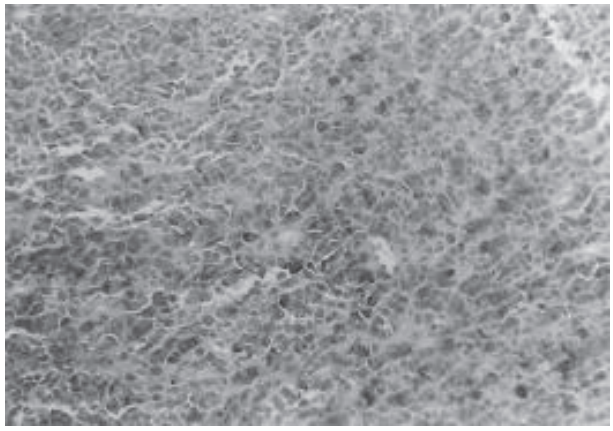

Fig. 2. Metastatic melanoma of the ampulla of Vater (H&E x100).

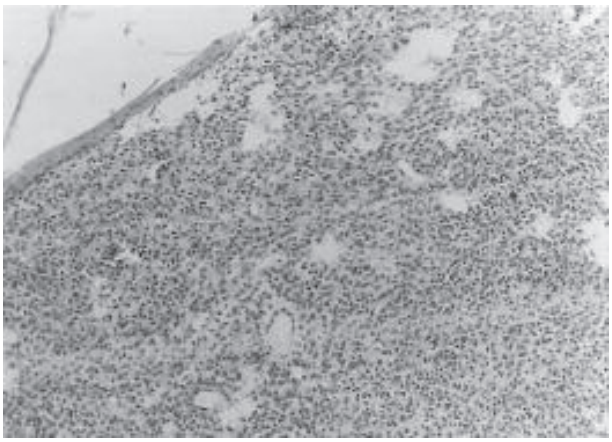

Fig. 3. Tumor tissue staining positive for HMB-45 (x200).

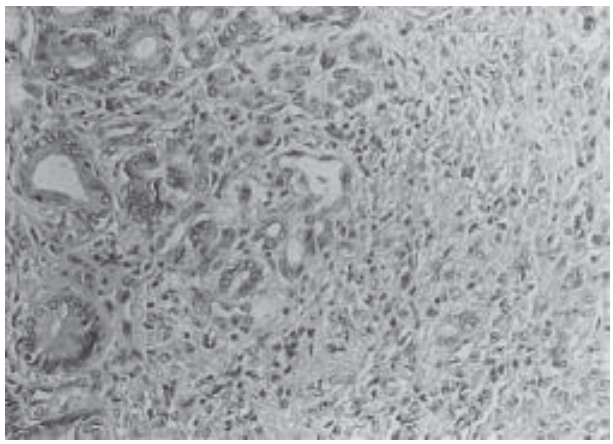

Fig. 4. Metastatic melanoma of the ampulla of Vater spreading to the duodenal wall (H&E x200).

nohistochemically, tumor tissue stained positive for S-100 protein and HMB-45 antigen (Fig. 3). The patient underwent pancreaticoduodenectomy according to Whipple's procedure. A tumor measuring up to 4 cm was found in the ampulla of Vater and common bile duct extending to the duodenal wall (Fig. 4). The liver was normal and appeared free from metastatic disease. One month after the initial presentation, the patient underwent surgical excision of metastatic melanoma of the right forearm. One week later, the patient's serum bilirubin concentration decreased to 27.5 mmol/L, and alkaline phosphatase to 93 U/L, while other findings were within the normal limits. The patient was discharged from the hospital. Then, the patient presented with brain metastasis at 9 and again at 17 months from the initial diagnosis. According to neurosurgical reports, both procedures were successfully performed, however, the patient died 20 months after initial presentation. Autopsy was not performed.

Discussion

Metastases from primary cutaneous melanoma to the gastrointestinal tract are quite common[8-11]. Autopsy studies revealed metastases to small bowel in more than 1/2, to stomach in 1/4, and to colon in 1/5 of cases[9]. Metastases to other parts of the gastrointestinal system including esophagus, rectum, anus, gallbladder, spleen and pancreas are less frequent[8,9]. According to other authors, metastatic melanoma was found on autopsy in 15% - 20% patients with primary melanoma[15,16]. Gastrointestinal metastatic melanoma usually becomes clinically manifest many years from initial diagnosis. However, it may even be an initial manifestation of the disease. Kadakia *et al.*[8] identified different metastatic tumors to the upper gastrointestinal tract by esophagogastroduodenoscopy in 14 patients, with metastatic melanoma being most common, i.e. it was detected in four patients. The papilla of Vater was involved in one patient, esophagus in three, stomach in 13, and duodenum in four patients. In all patients, the diagnosis was confirmed by cytologic and/or histologic analysis[8]. In the study of Le Borgne *et al.*[10], 12 patients underwent pancreaticoduodenectomy for ampullary or pancreatic metastatic tumor at two institutions during a 12-year period. The most common primary tumor was renal cell carcinoma in five, followed by melanoma in two cases. The mean interval between primary treatment and pancreatic or ampullary metastasis was 88 months, however, three tumors occurred synchronously with primary tumor[10].

The most common symptoms of gastrointestinal metastases are nonspecific pain, anorexia, bleeding, and other nonspecific symptoms. Symptomatic metastases of malignant melanoma within the biliary tree are very rare[13-16]. Jaundice may result from extrinsic compression of the common bile duct[13,14]. One such case has been reported by Garas *et al.*, and another one by Mc Arthur and Teergarden[13,14]. In the third case described by Garas *et al.*, metastatic melanoma presented as an intraluminal metastatic melanoma[13]. Obstructive jaundice as the first symptom of the disease due to metastatic melanoma causing ampullary obstruction, observed in our patient, has been reported only once[15]. In this case described by Caballero-Mendoza *et al.,* after pancreaticoduodenectomy primary melanoma was identified on the skin of the back[15]. In the other two cases reported, obstructive jaundice was observed in patients with known primary melanoma. Although primary melanoma of the gastrointestinal tract including biliary system has been reported[4,19], metastases from primary skin melanoma should always be taken in consideration.

References

1. KATO N, KIMURA K, SUGAWERA H, AOYAGIS S, KONDO K, YAMOSHIRO K. Pedunculated melanoma with pulmonary and bony metastases. J Dermatol 2000;27:769-73.
2. GIBBS P, CEBON JS, CALAFIORE P, ROBINSON WA. Cardiac metastases from malignant melanoma. Cancer 1999;85:78-84.
3. GOKASLAN ZL, ALADAG MA, ELLERHORST JA. Melanoma metastatic to the spine: a review of 133 cases. Melanoma Res 2000;10:78-80.
4. SCHUCTTER LM, GREEN R, FRAKER D. Primary and metastatic diseases in malignant melanoma of the gastrointestinal tract. Curr Opin Oncol 2000;12:181-5.
5. RADERMAN D, GILER S, ROTHEM A, BEN-BASSAT M. Late metastases (beyond ten years) of cutaneous malignant melanoma. Literature review and case report. J Am Dermatol 1986;15: 374-8.
6. AVERBROOK BJ, RUSSO LJ, MANSOUR EG. A long-term analysis of 620 patients with malignant melanoma at a major referral center. Surgery 1998;124:746-56.
7. TAAL BG, WESTERMAN H, BOOT H, RANKIM EM. Clinical and endoscopic features of melanoma metastases in the upper GI tract. Gastrointest Endosc 1999;50:261-3.
8. KADAKIA SC, PARKER A, CANALES L. Metastatic tumors to the upper gastrointestinal tract: endoscopic experience. Am J Gastroenterol 1992;87:1418-23.
9. Das GUPTA T, BRASFIELD R. Metastatic melanoma: a clinicopathological study. Cancer 1964;17:1323-39.

10. Le BORGNE J, PARTENSKY C, GLEMAIN P, DUPAS B, de KERVILLER B. Pancreaticoduodenectomy for metastatic ampullary and pancreatic tumors. Hepatogastroenterology 2000;47: 540-4.
11. BLECKER D, ABRAHAM S, FURTH EE, KOCHMAN ML. Melanoma in the gastrointestinal tract. Am J Gastroenterol 1999; 94:3427-33.
12. MURPHY MN, LORIMER SM, GLENNON PE. Metastatic melanoma of the gallbladder: a case report and review of the literature. J Surg Oncol 1987;34:68-72.
13. GARAS G, BRAMSTON B, EDMUNDS SE. Malignant melanoma metastatic to the common bile duct. J Gastroenterol Hepatol 2000;15:1348-51.
14. McARTHUR MS, TEERGARDEN DK. Metastatic melanoma presenting as obstructive jaundice with hemobilia. Am J Surg 1983;145:830-2.
15. CABALLERO-MENDOSA E, GALLO-REYNOSO S, ARISTA-NASR J, ANGELES-ANGELES A. Obstructive jaundice as the first clinical manifestation of a metastatic malignant melanoma in the ampulla of Vater. J Clin Gastroenterol 1999;29: 188-9.
16. MEYERS MD, FREY DJ, LEVINE EA. Pancreaticoduodenectomy for melanoma metastatic to the duodenum: a case report and review of the literature. Am Surg 1998;64:1174-6.
17. McFADDEN PM, KREMENTZ ET, McKINNON WM, PARARO LL. Metastatic melanoma of the gallbladder. Cancer 1979;44:1802-8.
18. DAUNT N, KING DM. Metastatic melanoma in the biliary tree. Br J Radiol 1982;55:873-4.
19. ZHANG ZD, MYLES J, PAI RP, HOWARD JM. Malignant melanoma of the biliary tract: a case report. Surgery 1991;109:323-8.

Sažetak

ISTODOBNA POJAVA PRIMARNOG MELANOMA KOŽE I NJEGOVE METASTAZE U VATEROVOJ AMPULI: PRIKAZ SLUČAJA

B. Krušlin, M. Vučić, M. Bekavac Bešlin, J. Filipović Čugura i M. Belicza

Maligni melanom ima sposobnost široke diseminacije u gotovo svaki organ u organizmu. Probavni je trakt često zahvaćen ovim tumorom, ali su rijetka izvješća o metastatskom melanomu u ampularnom području i žučnom sustavu. Opisan je slučaj 46-godišnjeg bolesnika koji je došao s opstruktivnom žuticom. Patohistološka analiza materijala dobivenog endoskopskom biopsijom Vaterove ampule ukazala je na metastatski melanom. Dva tjedna ranije bolesnik je podvrgnut operacijskom zahvatu zbog ulcerativnog tumora na kažiprstu desne ruke. Patohistološka analiza pokazala je akralni melanom (Clark V., Breslow V.). Naknadno je Whippleova resekcija gušterače, dvanaesnika i distalnog žučovoda otkrila metastatski melanom u Vaterovoj ampuli, koji se širio do stijenke dvanaesnika. Metastaza mozga dijagnosticirana je 9 i ponovno 17 mjeseci nakon postavljanja dijagnoze. Bolesnik je umro 20 mjeseci nakon prvog dolaska. Obdukcija nije rađena.

Ključne riječi: *Melanom, komplikacije; Melanom, sekundarni; Vaterova ampula; Neoplazme zajedničkog žučovoda, komplikacije; Prikaz slučaja*