Thumb metastases in a patient with colorectal cancer

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SUMMARY

Bone metastases from colorectal cancer are not common and most frequently are manifesting in late history of metastatic disease. We present a 67-old man who had first symptoms of metastatic disease manifested with edema and decreased mobility of thumb of right hand. Radiography showed complete osteolysis of proximal phalanx of thumb, which appeared 30 months after primary surgery for colorectal cancer. Histopathologic analysis of amputated thumb confirmed diagnosis of metastatic colorectal carcinoma and excluded osteolysis of other reasons. Metastatic changes in the first and second lumbar vertebra, which were treated with palliative radiotherapy, were confirmed by additional diagnostics.

Key words: *Colorectal Neoplasms; Neoplasm Metastasis; Bone and Bones; Thumb*

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INTRODUCTION

Colorectal carcinoma is one of the most frequent malignant neoplasms. In many countries only lung cancer, breast cancer in women, and prostate cancer in men occur more frequently.

Survival prognosis for these patients depends of the stage of disease (Astller Coller) and therapeutic procedures. In case of rectal cancer, computerized tomography (CT) or magnetic resonance (MR) examination of pelvis are a must when making decision for neoadjuvant chemoirradiation. Locoregional recurrence can be reduced by appropriate chemoirradiation; distant metastases are most common in liver and lung. Symptomatic bone metastases are rare; they are usually found during the late history of the disease concomitantly with visceral metastases.

CASE REPORT

We present a 67-year old man who came for a medical checkup in local hospital in April 2004 because of hematochezia. Rectoscopy showed infiltration of colorectal junction and radiography of lung and ultrasound of abdomen excluded distant metastases. Magnetic resonance of pelvis was not performed. He was operated and resection of rectosigmoid part was performed. Histopathologic examination indicated adenocarcinoma Astller Coller C2 stage. According to surgeon's decision the patient was not referred to multidisciplinary medical commission. He did not receive any adjuvant therapy except for regular controls. The checkup was every 6 months and included the results of tumor marker CEA test, complete blood count analysis, sedimentation, and ultrasound of abdomen. Once a year, the patient underwent barium enema examination, rectoscopy, and radiography of chest. In November 2006, the results of tumor marker test showed elevated CEA; the results of chest X-ray, abdominal ultrasound, and rectoscopy with examination of anastomosis were normal. The patient complained of minor pain in lower part of the back which did not affect his mobility and painless swelling of the right hand thumb (Figure 1) which impaired the hand mobility. He was referred to consult the physiatrist.

After physiatrist's examination and the results of radiography of right hand, which indicated osteolysis in proximal phalanx of thumb (Figure 2), the patient was admitted at the Oncology Institute of Vojvodina, Clinic for internal oncology in February 2007. During his hospitalization we performed additional diagnostic procedures. The results of blood count and biochemical analyses, total colonoscopy, and CT scan of thorax were normal. Ultrasound of abdomen showed a cyst in the right part of liver without metastases. Clinical observation of the right thumb showed everyday enlargement of edema and erythema of the thumb; it became livid but without pain. We suspected it was an isolated metastasis or some other osteolytic disease. Magnetic resonance examination of spine, abdomen and pelvis were indicated and obtained results showed metastatic infiltration of liver and spine (L1 and L2).

According to the decision of multidisciplinary oncology team the patient received palliative radiotherapy in L1 and L2 region with 15 Gy/3 fractions. After radiotherapy, on March 2, 2007 transmetacarpal amputation of right thumb in local anesthesia was done. Postoperative course was normal, wound healed *per primam.* Histopathological analysis of amputated thumb confirmed diagnosis of metastatic colorectal cancer (Figure 3a,b). Finally, the patient received palliative chemotherapy with 5-Fluorouracil (425 mg/m^2) and Leucovorin (20 mg/m^2) (Mayo regimen). During April 2007 the pain in lumbar part of spine intensified and in June the patient's general condition got worse and he died.

Figure 1. Edema and erythema of the right thumb

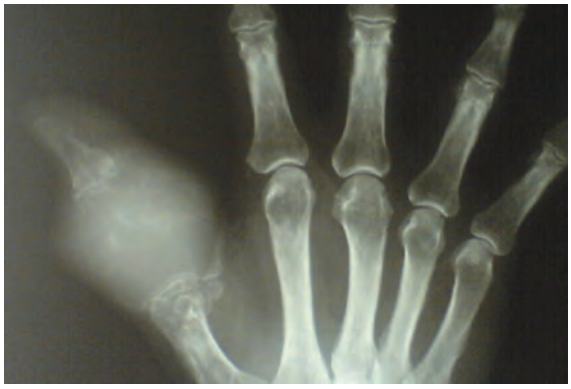
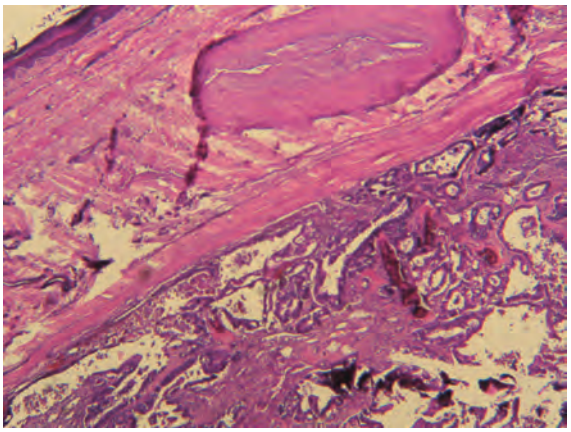
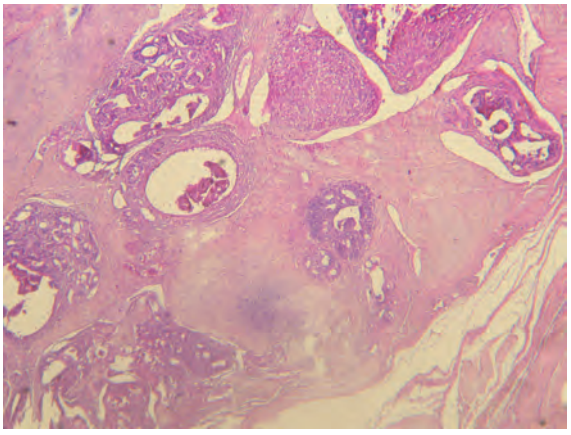


Figure 2. Radiography of right hand indicates osteolysis in proximal phalanx of thumb



a)



b)

Figure 3. a) Histopathological specimen of metastatic colorectal carcinoma into the skin and soft tissue of amputated thumb. (HE, Magn. 1x100); b) Microscopy picture illustrating the tumor metastatic deposits in amputated thumb (bone). (HE, Magn. 1x100)

DISCUSSION

Bone metastases of colorectal cancer are uncommon and usually appear late in the natural history of metastatic disease. The reported incidence ranges from 1% to 7% (1-3) or patients with radiological or bone scan evidence of bone metastases, usually in association with clinical symptoms, and up to 20% in post mortem studies (4). In a retrospective review of 4000 patients with rectal cancer Talbot et al. (1) found 48 (1%) patients with symptomatic bone metastases diagnosed with the median of 21 months after surgical excision of primary tumor. In patients with bone metastases they appeared to be the only component of distant spread in 21 (44%) of the patients.

In the case we described metastases were detected in proximal phalanx of thumb 30 months after primary surgery. Because of the elevated value of tumor marker CEA thumb edema was recognized as possible site of metastatic disease. The results of colonoscopy, ultrasound of liver and chest radiography did not show any evidence of visceral metastases.

Skeletal metastases from colorectal carcinoma are generally manifested as osteolytic or mixed osteolitic-osteoblastic and pseudosarcomatous lesions or as soft tissue ossification (5).

In case of our patient radiography of right hand showed osteolysis with clinical observation of thumb edema which was indicative of pseudosarcomatous form. This form is common in a diagnosis of primary malignant lesions of bone, but bone destruction can also appear as metastases of colorectal carcinoma. Typical sites of multiple bone metastases are lumbosacral spine (68%-71%), pelvis (23%), thoracic spine (16%-21%), ribs, humeri, femur (3-4) and mandible (6).

The only information about atypical site of bone metastases we can get from case reports. The first report of bone metastases from a rectal cancer is attributed to Curling in 1870 who described metastasis to the radius (7). Only few cases describe bone metastases in extremities and their appearance in proximal phalanx of finger is a rarity. Clinical observation of finger did not indicate malignant process but rather infective, degenerative or traumatic swelling. However, the course of the disease and additional diagnostics with pathological verification confirmed diagnosis.

Development of destructive bone lesions in a patient with a history of visceral carcinoma may be assumed to be metastatic disease (8). Palliative radiotherapy given in the lumbar region was ineffective because pain increased in next few months. After patient's discharge control checkups were not done because of rapid aggravation of his general condition and short course of the disease.

Acknowledgment

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Conflict of interest

We declare no conflict of interest.

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