CASE STUDY

CONTENTS

Vertebral metastasis of hepatocellular carcinoma secondary to viral hepatitis B: case report of 2 patients

Yannick Laurent Tchenadoyo Bayala, Ismael Ayouba Tinni, Fulgence Kaboré, Joelle Wendlassida Stephanie Zabsonre/ Tiendrebeogo, Dieu-Donné Ouedraogo

RHEUMATOLOGY DEPARTMENT, UNIVERSITY TEACHING HOSPITAL OF BOGODOGO, OUAGADOUGOU, BURKINA FASO

ABSTRACT

Bone metastases from liver cancer are rare. We report two cases of bone metastases revealing HBV-induced HCC. A 26-year-old african man presented with 4 months of low back pain in the context of general deterioration. Examination revealed a lumbar spinal syndrome and hepatomegaly. Abdominal ultrasound revealed a multinodular liver, and a CT scan of the spine revealed osteolytic lesions. Biological tests revealed a hepatic cytolysis syndrome, hepatic cholestasis and hepatocellular insufficiency. Alpha foetoprotein levels were elevated and hepatitis B serology was positive. We adopted the diagnosis of HCC of viral B origin with bone metastasis. The second case involved a 44-year-old African man admitted for 10 days with back pain. Examination revealed a spinal syndrome, paraplegia and hepatomegaly. A thoracic-abdominal-pelvic CT scan revealed typical HCC lesions and osteolytic lesions on the ribs, pelvis and vertebrae. The biology revealed a biological inflammatory syndrome, hepatic cytolysis, a hepatocellular insufficiency syndrome and a cholestasis syndrome. Alfa-feto proteins were elevated and HBV serology was positive. The diagnosis of bone metastasis of HCC secondary to HBV infection was accepted.

KEY WORDS: vertebral metastasis, hepatocellular carcinoma, viral hepatitis B, Burkina Faso

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INTRODUCTION

Digestive cancers are not very osteophilic tumours, and bone metastases occur late in their development [1]. Hepatocellular carcinoma (HCC) is a very common cancer worldwide, although its geographical distribution is heterogeneous. The highest incidence is seen in sub-Saharan Africa and East Asia. Chronic hepatitis B virus (HBV) infection is strongly implicated in these regions [2-3]. In the vast majority of cases, bone involvement in HCC is found in the context of polyvisceral metastatic disease [1-3]. The most common site of metastasis is the lung, followed by lymph nodes and the kidneys. However, bone metastases are very rare [4].

We report two cases of bone metastases revealing HCC in Burkinabe patients with HBV infection discovered during hospitalisation.

CASE REPORT

FIRST OBSERVATION

Mr B. M., a 26-year-old student, non-alcoholic, with no history of jaundice and no other particular pathological history, was admitted with hyperalgesic, incapacitating low back pain that had been present for 4 months, in an apyretic context and with an altered general condition consisting of asthenia, anorexia and weight loss estimated at 11%, without notion of trauma or abdominal pain. On admission, the examination revealed an altered general condition, normal consciousness, moderate malnutrition, and a low lumbar spinal syndrome; there was no radicular syndrome. There was gross hepatomegaly with a hard, even-surfaced liver arrow measuring 14 cm, with a sharp lower edge. The rest of the examination was normal. On imaging, abdominal ultrasound revealed a suspicious-looking multinodular cirrhotic liver (Fig.1). Computed tomography (CT) of the spine revealed osteolytic lesions of the vertebral bodies of L3 and L5, osteolysis of the right pedicle of L5 and a moderate fracture of the vertebral body of L3 (Fig.2). The biology revealed cytolysis with aspartate aminotransferase (ASAT) at 440 U/L and alanine aminotransferase (ALAT) at 88 U/L, hepatic cholestasis with gamma GT at 596 U/L, hepatocellular insufficiency with a prothrombin rate (PT) at 47.9%; there was no cytopenia or biological inflammatory syndrome. The alpha-foetoproteine assay came back very high at 332,100 ng/ml and the prostate-specific antigen (PSA) normal at 0.85 ng/ml. Hepatitis B serology came back positive. We were unable to continue our histological investigations due to the absence of technical facilities for liver biopsy and bone sampling. The diagnosis of HCC of viral B origin with bone metastasis was highly probable given the clinical arguments, the lesions on

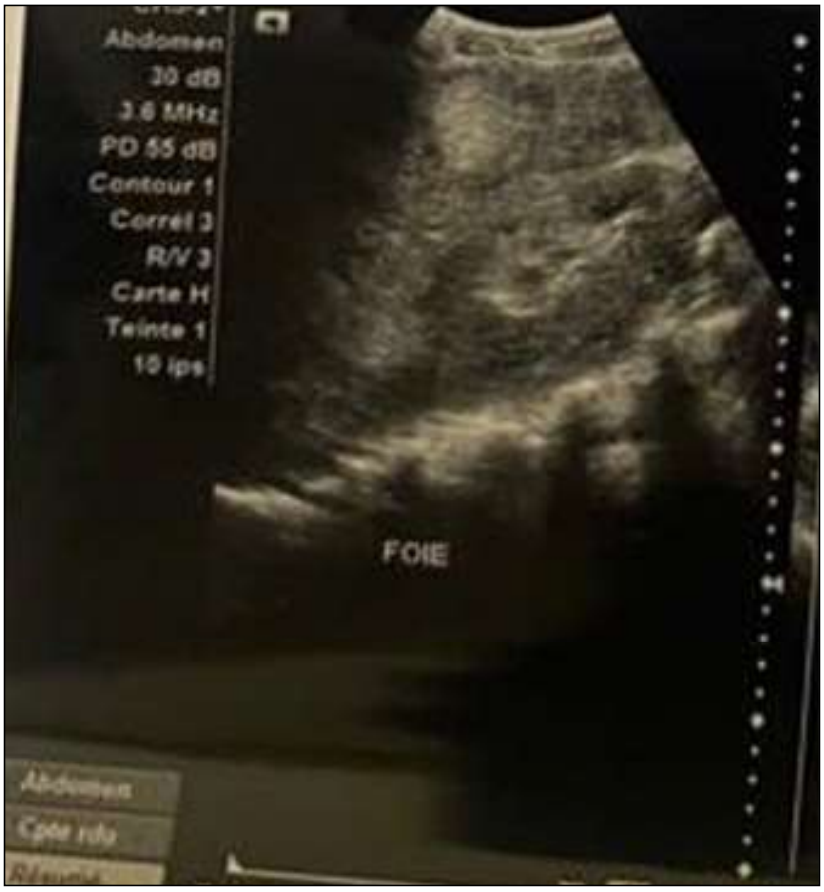

Fig. 1. Abdominal ultrasound showing a multinodular cirrhotic liver.

imaging and the biological disorders. The patient was treated with morphine for pain, nursing and rehydration, but died 5th days later of hypovolaemic shock during hospitalisation.

SECOND OBSERVATION

Mr C. H. was a 44-year-old shopkeeper, married and a non-drinker. He was admitted to the rheumatology department with hyperalgesic back pain of inflammatory origin, which had been progressing for about ten days in an apyretic context and with a deterioration in his general condition. Examination revealed WHO stage 3 general, normal consciousness and stable haemodynamic parameters. There was a thoracic and lumbar spinal syndrome, proportional paraplegia with motor strength rated at 2/5 in both lower limbs, and no radicular syndrome or sublesional syndrome. Examination of the abdomen revealed global hepatomegaly, with a hepatic arrow measuring 16 cm, with a regular surface and a sharp lower edge, as well as HACKETT type 2 splenomegaly. The rest of the examination was unremarkable. On imaging, the thoraco-abdomino-pelvic CT scan revealed several hypodense liver nodules enhanced by arterial contrast (Fig.3). It also revealed osteolytic lesions in the ribs, pelvis and vertebrae associated with T8 and L2 vertebral fractures (Fig.4). He had no other secondary locations. The biology revealed a biological inflammatory syndrome with a C reactive protein (CRP) of 78 mg/l, hyperleukocytosis of 11500/mm3, predominantly neutrophilic, and no anaemia. There was also hepatic cytolysis with transaminases elevated to 3 times normal, a hepatocellular insufficiency syndrome with a low PT of 32.9% and a cholestasis syndrome with gamma GT elevated to 3 times normal. Alfa foeto protein was elevated to 3097 ng/ml and PSA was normal. HBV serology came back positive. The diagnosis of bone metastasis from HCC secondary to HBV infection was highly probable given our clinical picture, despite the absence of histological evidence, which was not available in our context. The patient was initially treated with tramadol based analgesics, followed by morphine and nursing. The immediate course was marked by a deterioration in general condition, and the patient died on the 6th day of hospitalisation as a result of hypovolaemic shock.

HCC is one of the main causes of cancer-related deaths in many parts of the world. It represents a public health problem because it is the 4th cancer that causes the greatest number of deaths [5]. Chronic HBV infection is the leading cause of HCC in East Asia and in most sub-Saharan African countries, as shown by our two observations, and rarely HCV, as in the two cases reported in Togo [5-8]. The age of onset of HCC varies widely throughout the world. In Japan, HCC tends to appear later in life. In North America and Europe, the median age of onset is over 60 years. [5, 8]. In Africa, on the other hand, the median age

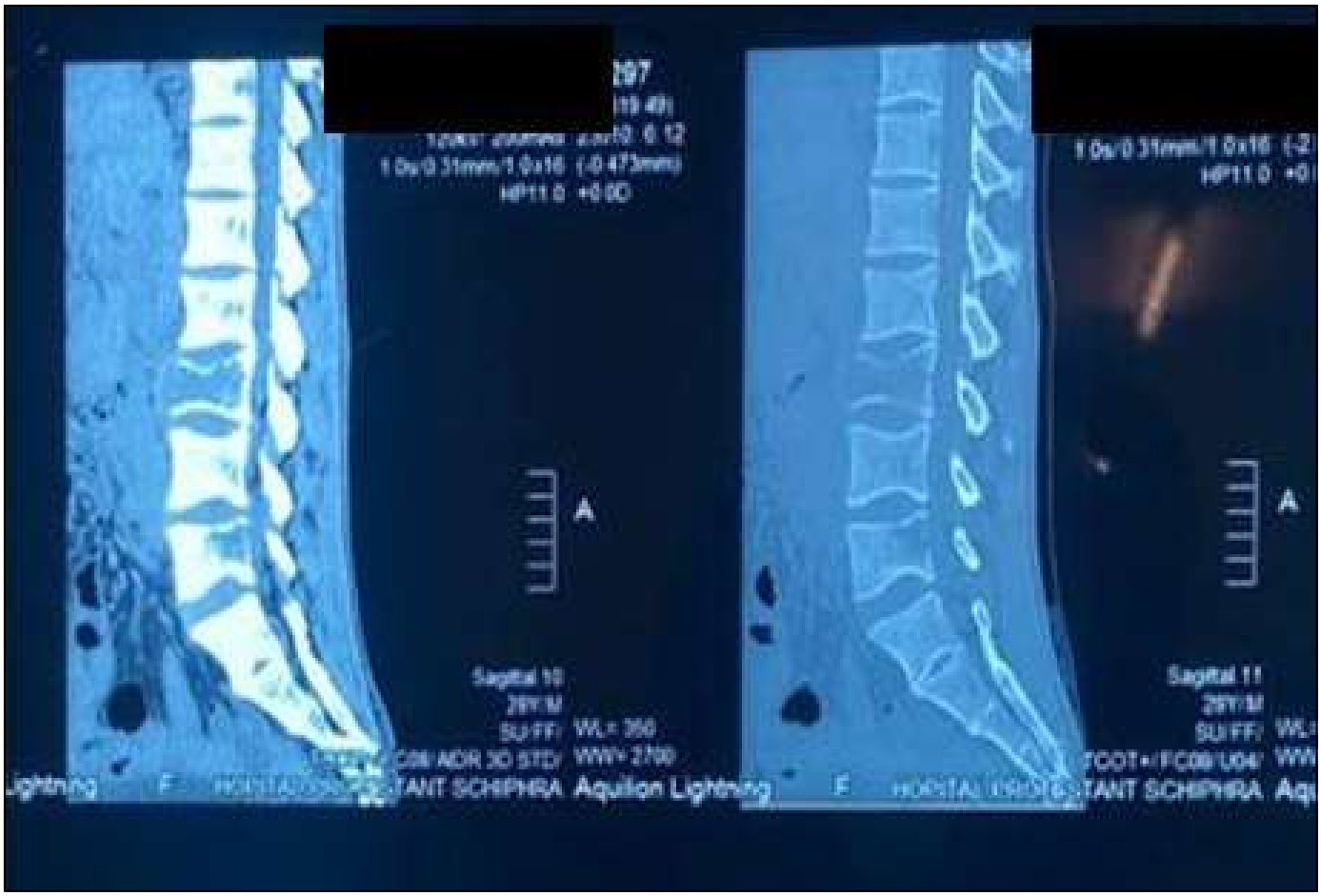

Fig. 2. CT scan of the spine showing multistage vertebral osteolytic lesion.

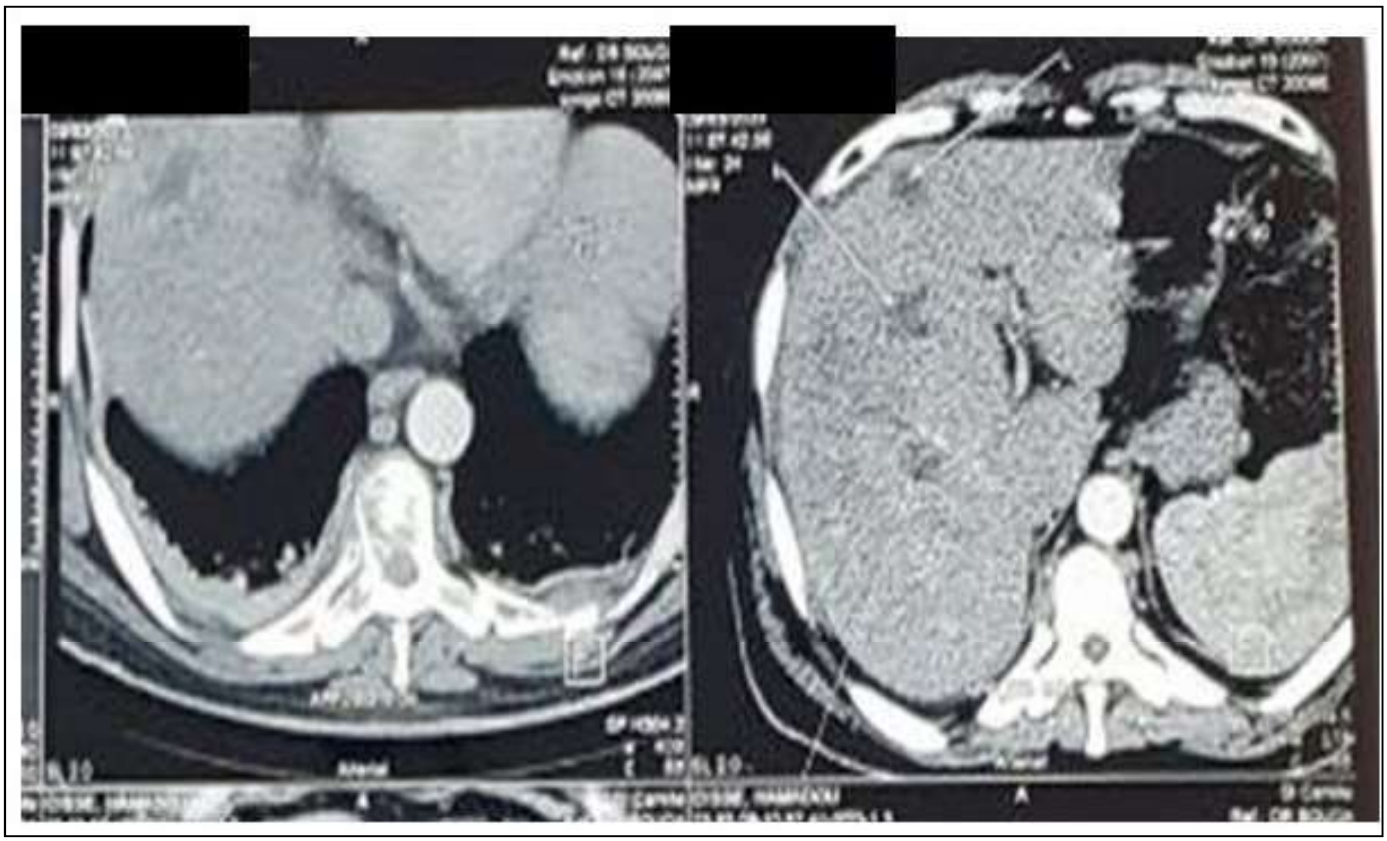

Fig. 3. Abdominal CT scan showing liver nodules.

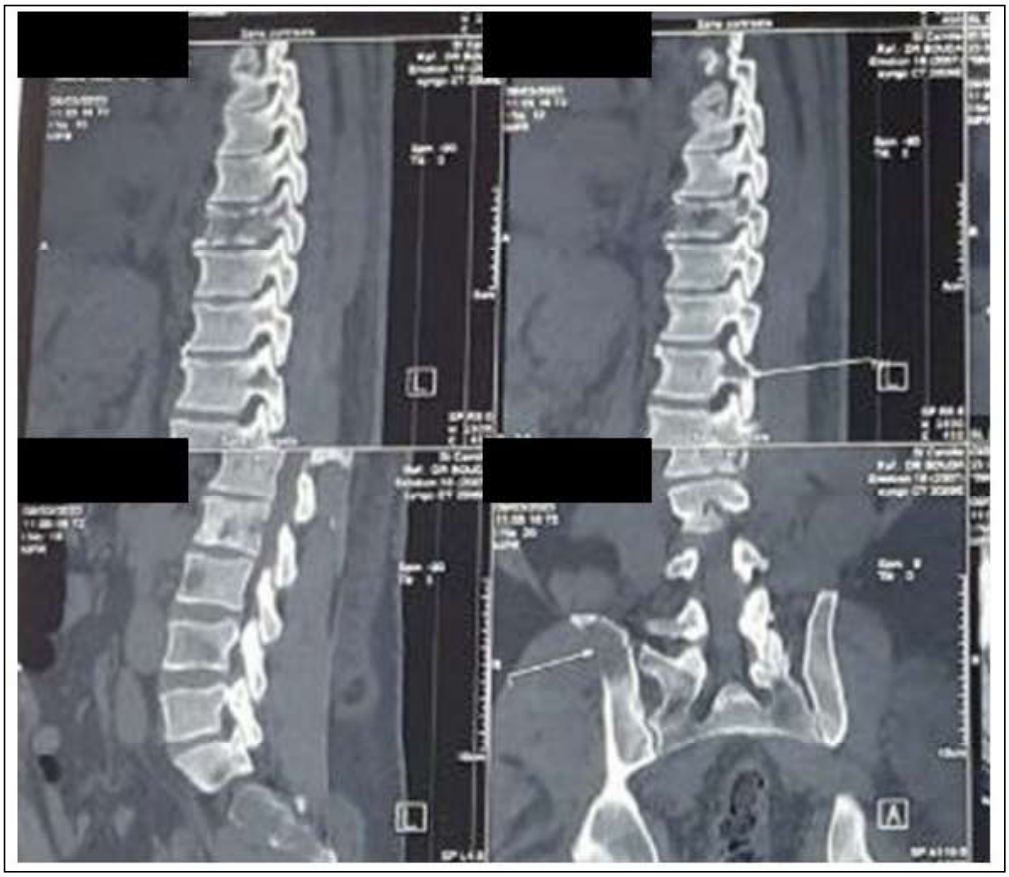

Fig. 4. CT scan of the spine showing osteolytic lesions of the vertebrae and pelvis.

of diagnosis is 45 years with extremes as shown by our two observations [7]. It was particularly early in our first patient, who was diagnosed at the age of 26 with a secondary bone site. The median age of discovery of bone metastases in Asian patients is 65 years, which is much higher than in our patients [9]. Our two patients were men, as in the cases reported in Togo, since HCC is more common in men, accounting for 72% of cases and 85% of bone metastases. [7, 9]. Bone metastases are increasingly reported in the literature, but the revealing bone symptomatology remains exceptional because our patients consulted only for osteoarticular and not digestive symptoms. [10-12]. At the onset, hepatomegaly was found in 9 out of 11 cases with a bone metastasis in Maillefert's review as in our cases with a hard hepatomegaly with a sharp lower border characteristic of HCC [12]. Bone metastases on X-ray and CT scan are frequently osteolytic lesions and in the absence of a biopsy for histological proof, their typical presentations allow the diagnosis to be evoked with a strong presumption [6, 10, 12, 13]. The diagnosis of HCC in the absence of histological evidence is made in the presence of a contrast-enhancing nodule at arterial time with a washout at portal time [5, 14]. The prognosis for HCC with bone metastasis is poor, with a median survival time of 6.2 months. [4]. The modified TOKUHASHI prognostic score was 7 and 4 respectively in our 2 observations, indicating a life expectancy of less than 6 months. [13]. As with all extrahepatic HCC metastases, only palliative treatment can be proposed. From a pharmacological point of view, Sorafenib was indicated for our patients in their advanced stage, but its unavailability in our context reduces the therapeutic alternatives [5].

CONCLUSIONS

HCC revealed by bone metastases is rare. However, it should be considered when a patient with chronic hepatopathy presents with bone pain at any age. The diagnosis must be made quickly, as treatment options are limited.

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Ethical Approval and Consent to participate: we obtain consent of patients.

CONFLICT OF INTEREST

The Authors declare no conflict of interest

CORRESPONDING AUTHOR

Yannick Laurent Tchenadoyo Bayala
Bogodogo University Hospital
Karpala, Ouagadougou, Burkina Faso
e-mail: bayalayannick7991@gmail.com

ORCID AND CONTRIBUTIONSHIP

Yannick Laurent Tchenadoyo Bayala: 0009-0004-9095-8948 A B D
Ismael Ayouba Tinni: 0000-0002-5809-7576 A
Fulgence Kaboré: 0000-0001-6541-5352 A
Joelle Wendlassida Stephanie Zabsonre/Tiendrebeogo: 0000-0001-8098-2697 A
Dieu-Donné Ouedraogo: 0000-0003-2625-2516 E F

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