Case report
Hepatic Kaposi's sarcoma in a patient affected by AIDS

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Abstract

Kaposi's sarcoma is a rare malignant tumor characterized by spindle cells and angiomatoid structures. Hepatic KS is rarely reported in living patients, while autopsies show liver involvement in 35% of patients with KS. The characteristic findings on imaging are: 1) multiple nodules located mainly along the periportal area, intrahepatic bile ducts and peripheral branches of the portal vein; 2) delayed contrast enhancement, or sometimes enhanced in the type of hepatic hemangioma; 3) dilated intrahepatic bile ducts; 4) enlarged lymph nodes in the retroperitoneal region; 5) multifocal lesions in various organs. Those findings are considered indicative of hepatic KS.

Keywords: AIDS; Liver; Kaposi's sarcoma; MRI; CT

1. Introduction

Kaposi's sarcoma (KS) was first described in 1872 by Moritz Kaposi [1]. The outbreak of KS among young, previously healthy, homosexual men in early 1981 marked the initial recognition of the acquired immune deficiency syndrome (AIDS) [2]. Then KS was defined as an aggressive, multifocal oncologic disease, which frequently involves skin and internal organs, predominantly affecting homosexual men with AIDS. Hepatic KS is rarely reported in living patients, while autopsies show liver involvement in 35% of patients with KS [3]. Therefore, we present a case of hepatic Kaposi's sarcoma in a patient affected by AIDS confirmed by pathology with imaging findings on CT and MRI in this paper.

2. Materials, methods and results

A 46-year-old male with a history of infection of human immunodeficiency virus over thirty years, was admitted to our hospital because of fever, weight loss, anorexia, abdominal pain, nausea and vomiting. The physical examination revealed a positive Murphy's sign. Neither rash nor diarrhea was recognized. Laboratory examination showed CD4 (+) 20 cells/ul, ALT 68.5 U/L, AST 128.8 U/L, DBil > TBil > 80%, ALP 676.8 U/L, CA199 > 1200.0u/ml and AFP 2.2 ng/ml. After the introduction of highly active antiretroviral therapy (HAART), abdominal MR imaging revealed multiple nodules of low T1 intensity and high T2 intensity in the liver. They were low intensity on DWI. These nodules located tuftedly along the peripheral branches of the portal vein. These lesions were ring-like enhanced by contrast media in the arterial phase, and obviously enhanced in the delay phase. Enhanced images also disclosed transient enhancement in the surrounding liver tissues. Intrahepatic bile duct dilated mildly. The common bile duct and pancreatic duct were normal. Enlarged lymph nodes were observed in the retroperitoneal region. Abdominal CT scan revealed multiple nodules of low density in the enlarged liver along the peripheral branches of the portal vein. The portal vein was pressed by these lesions. These nodules were enhanced obviously in the delay phase. Intrahepatic bile duct dilated mildly. The common bile duct and pancreatic duct were normal. Enlarged lymph nodes were observed in the retroperitoneal

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region. Thoracic CT scan disclosed multiple nodules in bilateral lung fields and diffused interstitial inflammatory changes. Histological findings at biopsy showed multiple spindle cells in the lesions. Immunohistochemical staining showed CD31(+) CD34(-), Ki-67(+), 15%, S-100(-), SMA(-) and Factor VIII(-). These characteristics were consistent with the diagnosis of Kaposi's sarcoma (KS).

Fig. 1 shows the imaging and pathological features of this patient. The lesions of this case occurred in various organs, including liver, thyroid gland, lungs and rectus. Lesions in the liver and the thyroid gland were diagnosed to be KS by biopsy. Lung biopsy and rectus biopsy were not performed.

3. Discussion

Kaposi's sarcoma, also known as multiple idiopathic hemorrhagic sarcoma, which is a rare malignant tumor characterized by spindle cells and angiomatoid structures. AIDS associated Kaposi's sarcoma is Kaposi's sarcoma in patients with AIDS. It is reported that KS is detected in 35% of AIDS patients with low CD4 counts (<150-200 cell/mm³), and aggressive KS contributes about 12% deaths of these patient [4]. Diagnostic delay is a fundamental factor that can influence prognosis of KS patients [5]. The condition of KS tends to appear in the form of rash and other skin lesions (72%). In addition, tumorous edema, even elephantiasis, sometimes can be observed in the lower limbs. Nonspecific symptoms present when internal organs get affected. Cough, spectrum, hemoptysis, dyspnea, abdominal pain, diarrhea, hemafecia and/or emaciation occur in patients with KS in the lungs (51%), the digestive tract (48%), the liver (34%) and/or the spleen. The pathological characteristics of KS are the tumor cells in the periporal area, the enlargement of periporal area, the proliferation of vessels and angiomatoid or fissuring changes. The characteristic findings on imaging are: 1) multiple nodules located mainly along the periporal area, intrahepatic bile ducts and peripheral branches of the portal vein; 2) delayed contrast enhancement, or sometimes enhanced in the type of hepatic hemangioma; 3) dilated intrahepatic bile ducts; 4) enlarged lymph nodes in the retroperitoneal region; 5) multifocal lesions in various organs. Hepatic Kaposi's sarcoma must be differentiated from secondary diffused liver lymphoma by typical delayed enhancement, because of the latter's poor blood supply. Although cutaneous lesions were absence in this patient with AIDS, the signs on abdominal CT scan and MR imaging and the involvement of thyroid gland, the lungs and the rectus supported the diagnosis of KS.

References


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