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Surgical resect giant renal fibrosarcoma with spontaneous rupture and hemorrhage: A case report

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Abstract

Renal fibrosarcoma is a kind of rare renal malignancy, accounting for only 1% of all renal malignancies. As a highly malignant tumor, it's easy to metastasize and insensitive to radiotherapy and chemotherapy. Besides, its prognosis is very poor and its diagnosis is difficult. The spontaneous rupture and hemorrhage of renal fibrosarcoma is extremely rare, and no relevant reports have been found. After spontaneous rupture of the tumor, the patient was treated with radical nephrectomy after transcatheter embolization of the renal artery. Following symptomatic treatment, the patient improved and was discharged from the hospital.

Keywords

Case report; Renal fibrosarcoma; Surgery; Spontaneous rupture.

Introduction

Here, we are talking about adult fibrosarcoma, which is extremely rare and highly aggressive. Instead, infantile fibrosarcoma is a low-grade tumor with a very low metastatic risk. They are two different entities clinicopathologically and genetically. The World Health Organization defined adult fibrosarcoma as "malignant neoplasm composed of fibroblasts with variable collagen production and, in classical cases, a 'herringbone' architecture". It's so rare that it accounts for less than 1% of soft tissue sarcomas in adults [1]. And its etiology remains unclear. Moreover, it's very difficult to diagnose it, usually we need exclude other types of spindle cell malignant neoplasms [2]. In the early stage of its growth little clinical manifestation can be found, patients can't find it until the tumor grow bigger and come up with vague abdominal discomfort, palpable mass, flank pain, intermittent hematuria, fever and hydronephrosis [3]. In this case, the patient found the tumor when it spontaneously ruptured and bled. There has been no same report. In

clinical we usually adopted radical nephrectomy. Although, tumor is surgical resect it is easy to occur distant metastasis and patients usually die because of it.

Case Report

A 42-year-old man admitted to hospital for a 2-day history of lower abdomen pain and worsens in the last 6 hours. The patient had suffered hypertension for years and regularly taken antihypertensive drugs. In the past this patient has no history of abdominal pain hematuria or renal colic. On physical examination, abdominal was distended with the right upper abdominal tenderness, muscular tone, a palpable huge hard mass, and percussion pain in the renal area. Laboratory examination showed: hemoglobin has decreased from 132 g/L to 75 g/L in 4 days after the patient presented to the hospital, and no microscopic hematuria has been found. Imaging examinations: preoperative Contrast-Enhanced Computed Tomography (CECT) scan demonstrated a retroperitoneal hemorrhage caused by rupture of the right renal fibrosarcoma measured about 20 x 15 x 10 cm (Figure 1). And on the fourth day, after pre-operative renal arterial embolization, we performed radical nephrectomy. During the operation the huge ruptured tumor of the right kidney and hematoma were found and resected (Figure 2).

Pathology report: giant right renal tumor (26 x 16 x 8 cm in size) with no adjacent metastasis. Immuno Histo Chemistry (IHC): CKpan (-), SMA (-), Des (-), S-100 (-), CD34 (vessel+), HMB-45 (-), Melan-A (-), CD99 (+), STAT6 (-), Bcl-2 (+), Ki-67 (80%+). It is consistent with the diagnosis of fibrosarcoma. Then after 14-day long symptomatic and supportive treatment, patient's condition was stable and discharged. And the CT examination 1 month later showed no obvious signs of metastasis.

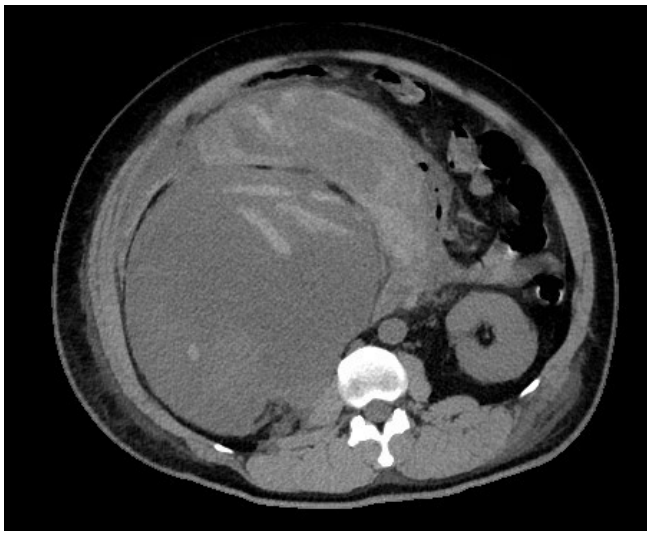

Figure 1: Patients' preoperative CECT.

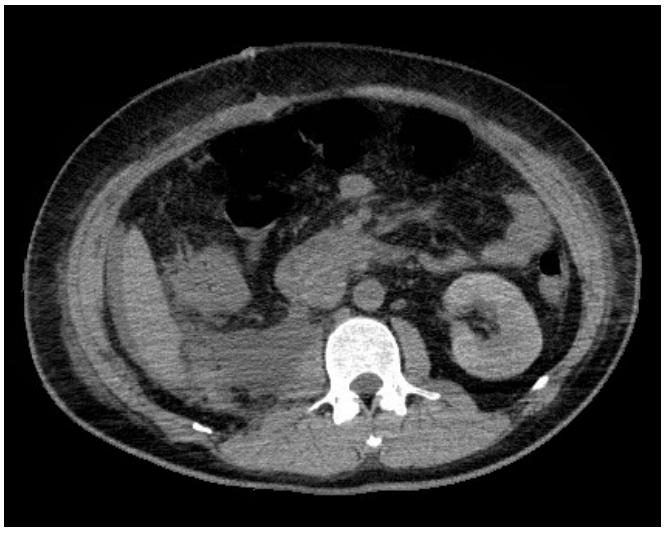

Figure 2: Patients' postoperative CECT.

Discussion

Like several other reported cases of renal fibrosarcoma, this patient did not show clinical manifestations until the tumor volume grew to a huge size, but this was the only case that the tumor was so large that it spontaneously ruptured and bled. Clinically, radical nephrectomy is the main method for the treatment of renal fibrosarcoma. In this case, as the renal tumor ruptured and bled, we adopted renal artery emboliza-

tion first, followed by radical nephrectomy. For patients with tumor rupture and bleeding, it is necessary to be alert to the occurrence of shock or even disseminated intravascular coagulation at any time. Preoperative arterial embolization, complete hemostasis during operation, accurate and rapid operation process, timely blood transfusion and prevention of postoperative complications are all extremely critical for the treatment of this patient. No ureteral and vascular invasion or adjacent metastasis was found in this patient during and after operation. And no obvious signs of metastasis were found in abdominal CT one month after operation. In general, fibrosarcoma is a highly malignant tumor, which is not sensitive to radiotherapy and chemotherapy. Radical nephrectomy is the first choice in clinic. Recently, a new study has found that cerium oxide nanoparticles as a promising tool for the treatment of fibrosarcoma in-vivo through delivering nanoceria to tumor cells and their microenvironment [4]. The lack of clinical cases is one of the main reasons for the lack of diagnosis and treatment programs of the disease. Most patients of the disease die of distant metastasis of tumors. How to prevent the metastasis of the disease and how to treat patients with metastasis still need more exploration and research.

Declarations

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