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CASE REPORT

Primary Rhabdomyosarcoma of Kidney with Local Recurrence and Liver Metastasis in Adults: A Case Report

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Abstract

Primary rhabdomyosarcoma (RMS) of the kidney in an adult is rare, with only a few cases published in the literature. It is a mesenchymal tumor associated with an aggressive and rapid clinical progression course. We present a case of primary renal RMS in a 58-year-old female who presented with intermittent abdominal pain in the past year. The computed tomography (CT) scan revealed a 20×25×8 cm heterogeneous solid mass in the middle pole extended to the lower pole of the right kidney. Therefore, the patient underwent a right radical nephroureterectomy. Histopathology examination and immunohistochemistry studies confirmed the diagnosis of RMS with pleomorphic components. Postoperatively, the patient was discharged without any complications and was referred to an oncologist for chemotherapy. However, a follow-up CT scan in 2 months showed widespread liver metastasis and local recurrence. The patient received Gemcitabine and Docetaxel, but her condition worsened, and she passed away 5 months later. Primary renal RMS is rare in adults. In addition, liver metastasis is uncommon and poorly understood. Hence, we describe the clinicopathologic characteristics, including clinical follow-up of our case, focusing on the disease progression, treatment, and outcome.

Keywords: adult; case report; kidney; liver metastasis; pleomorphic; rhabdomyosarcoma; disease progression

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Introduction

Rhabdomyosarcoma (RMS) of the kidney is a distinctive form of renal sarcoma that develops from the skeletal muscle progenitor cells. It occurs only in 1–3% of primary renal malignancies (1). Embryonal, alveolar, and pleomorphic variations are among the histological subtypes. Primary pleomorphic RMS in adults are exceedingly uncommon (2, 3). In addition, in adulthood, these tumors appear late and aggressively, with the majority of cases developing metastasis at the time of diagnosis (2). Hence, we describe our patient's clinicopathologic characteristics, including clinical follow-up, focusing on the disease treatment and outcome.

in an adult woman who suffered from hematuria and colic pain. An abdominal CT scan showed a 5.4×4.3 cm mass located in the upper pole of the right kidney without evidence of metastasis. However, renal capsular invasion and invasion of the ureter were discovered during surgery. After the initial postoperative diagnosis, chemotherapy with Vincristine, Actinomycin D, Cyclophosphamide, and radiotherapy was started. However, no longer follow-up was provided (only 4 months) (13).

Furlong et al. reported 38 cases of pleomorphic RMS in adults. In a follow-up of 30 (79%) cases, it was discovered that 70% of cases expired with a survival rate of 20 months (range: 1–108 months); 3% of cases were still alive at 12 months, and 27% were free of disease. Within a mean of 9 months (range: 2–24 months), 45% of the cases developed with their first local recurrence, with up to two recurrences reported. Within a 15-month average follow-up, 45% of cases developed metastases (range: 36 months) (14). Our patient developed liver metastasis and local recurrence within 2 months and died 5 months after surgery.

Conclusion

Primary pleomorphic RMS of the kidney is rare and vastly aggressive, with a low survival rate in the adult population. It seems that the RMS, even after successful total resection and adjuvant therapies, still has a high rate of local recurrence, metastasis, and mortality.

Consent

Written informed consent was obtained as per institutional guidelines.

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Conflict of interest

The authors declare no potential conflicts of interest with respect to research, authorship, and/or publication of this article.

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