CASE REPORT

Renal adenocarcinoma presenting as a groin swelling: a case report

R. Manikandan · L. N. Dorairajan · Santosh Kumar · Piyush Tripathi · Paari Murugan · Debdatta Basu

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Abstract Renal cell carcinoma (RCC) is known to have myriad presentations due to the extremely vascular nature of the organ. RCC are known to metastasize extensively to various organs of the body. We report a case of a 70-years-old male who presented with multiple inguinal lymph node enlargements which on excision biopsy showed metastatic adenocarcinomatous deposit. Search for the primary revealed a RCC arising from the left kidney. Inguinal lymph nodal metastasis, an uncommon site of distant metastasis in renal neoplasm, as a first clinical sign leading to the diagnosis is not yet reported in literature.

Keywords Renal cell carcinoma · Inguinal lymph node metastasis · Hypernephroma

Introduction

Renal cell carcinoma (RCC) presenting with synchronous metastatic deposits in various organ systems is well known. But RCC presenting as inguinal swellings due to lymph node secondaries is not reported in literature. We present such a case and discuss the possible mechanism of metastatic involvement of inguinal lymph nodes besides reviewing relevant literature. Though a few reports have shown reasonable survival following surgery in patients with solitary metastasis, patients with widespread secondaries have poor survival.

Case report

A 70-years-old man presented with complaints of progressive enlargement of multiple swellings in the right groin and anorexia and weight loss for four months. The patient was initially diagnosed by his physician to have multiple inguinal lymphadenopathy probably due to lymphoma or secondary deposits of an unknown primary and he underwent excision biopsy of a lymph node. Histopathology showed clear cell adenocarcinomatous deposit probably from the genitourinary tract. The patient was then referred to us for urological evaluation.

On examination, he was pale and undernourished. His pulse rate was 92/min and blood pressure 130/80 mm Hg. He had multiple bilateral inguinal lymphnode swellings the largest measuring 9.5×8.0 cm (Fig. 1). Laboratory investigations showed hemoglobin was 8.5 gm/dl, a normal peripheral blood smear and normal liver and renal function tests. His serum prostate specific antigen was 1.3 ng/dl and chest X-ray was normal. Ultrasonography of the abdomen showed a 7.0×6.5 cm irregular hypoechoic mass

R. Manikandan · L. N. Dorairajan · S. Kumar · P. Tripathi · P. Murugan · D. Basu ·
Departments of Urology and Pathology,
Jawaharlal Institute of Postgraduate Medical Education and
Research,
Pondicherry, India

L. N. Dorairajan (✉)
e-mail: dorairajan_ln@hotmail.com

lesion involving the upper and middle portion of the left kidney with multiple paraaortic and iliac lymphadenopathy. Contrast enhanced CT scan confirmed the presence of a heterogeneously enhancing mass lesion in the upper and middle portion of the left kidney with calcification and necrosis, but without involvement of perinephric tissues or vascular invasion. Multiple para-aortic and common, external and internal iliac lymph node enlargements were present (Fig. 2). There was also a 2.5×2 cm lesion present in segment VIII of liver. Ultrasound guided fine needle aspiration cytology of the kidney lesion showed an adenocarcinoma of clear cell type.

Fig. 1 Photograph showing multiple massively enlarged inguinal lymph nodes

Fig. 2 Contrast enhanced CT scan showing left renal cell carcinoma with multiple retroperitoneal lymphadenopathy

Due to the presence of extensive metastasis and the poor performance status, the patient received radiation therapy to the inguinal region for relief of excruciating pain. The patient subsequently developed cervical lymph node involvement during the course of follow-up.

Discussion

About one third of patients with RCC have metastatic disease at the time of initial diagnosis and 40 to 50% develop distant metastases after initial diagnosis. The most common sites for RCC metastasis are lung, regional lymph nodes, bone, liver, adrenal, contralateral kidney and brain. In addition, RCC is known to cause metastases in many peculiar sites. It has been suggested that renal cancer cells more readily adapt and flourish in a diverse array of host microenvironments probably accounting for the unique metastatic potential to peculiar organ systems [1]. Since the kidney receives 25% of circulating blood volume every minute, renal neoplasm has rich vascularity [2] facilitating early and extensive dissemination of the disease.

Metastatic carcinoma presenting as inguinal lymphadenopathy from an unknown primary accounts for only 1 to 3.5%. Howard et al [3] in their retrospective review of 2232 patients with inguinal lymphnode metastasis, observed that the primary site of malignancy in order of frequency was skin of lower extremity, skin of trunk below umbilicus, rectum and anus, ovary and penis. Adenocarcinomatous histology was found in 9%. In their series about 13 patients of inguinal node metastasis were from renal malignancies. The details regarding the histology of the renal cancer, clinical presentation and management of this subset of patients are not discussed in their review. In a retrospective review of 56 cases of metastatic inguinal lymph nodes, only one patient with squamous cell deposit in the right inguinal node was found at autopsy to have an incidental unrelated left renal adenocarcinoma [4].

Saitoh et al [5] analyzed the autopsy records of 1828 cases of RCC and found lymph node metastases in 64% of RCC. Lymphnodes located at renal hilum are generally the first echelon nodes involved. Highly variable patterns of lymphatic spread have been documented with metastases to second and third echelon groups bypassing renal hilar lymph nodes also [6]. Although uncommon, involvement of supraclavicular, cervical, axillary and inguinal lymph nodes has been reported in autopsy series [7].

PubMed and other literature search showed no report similar to our patient of RCC with multiple massive inguinal lymphadenopathy as an initial presentation. The probable explanation for this phenomenon may be due to the retrograde lymphatic spread as our patient had extensive retroperitoneal lymphadenopathy. Recent studies have demonstrated that cytoreductive nephrectomy followed by systemic treatment should be considered in patients

with synchronous metastatic disease in selected groups of patients. Individuals with poor performance status, metastasis in critical areas, major organ dysfunction and significant comorbidities are not candidates for such treatments [8].

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