Renal Leiomyoma – A Case Report And Discussion.

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Citation

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Abstract

Benign neoplasms of smooth muscle of the kidney are a rare neoplasm. A 55 year old female presented with the history of abdominal discomfort. Ultrasonographic findings showed a large hypoechoic area in the right kidney measuring 21 x 28 mm, rest of the scan was within normal limits. Contrast enhanced CT scan of the abdomen showed a large enhancing mass lesion in the pelvis of the right kidney, suggestive of leiomyoma.

INTRODUCTION

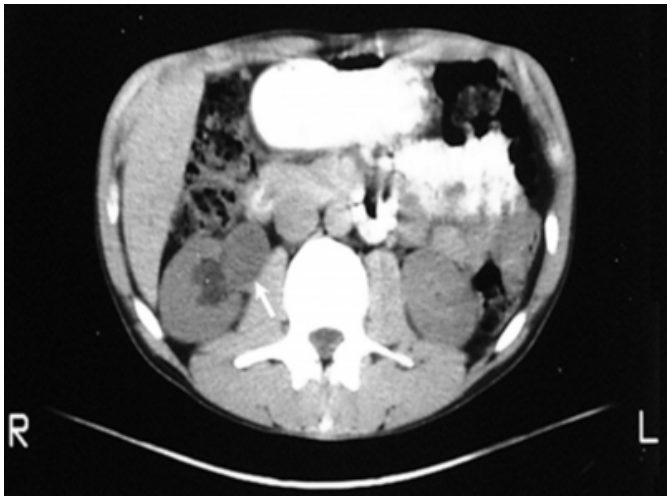
Leiomyomas are benign neoplasms of smooth muscles that commonly arise in tissues with a high content of smooth muscles such as uterus.

CASE

A 55 years old female non diabetic non smoker presented in the department of urology with the chief complaints of pain abdomen for the last 2 months. The patient has a negative history of fever and or trauma, her general physical condition was normal with normal blood pressure and pulse, all other basic haematological investigations were done and were within normal limits. Contrast enhanced CT Scan of the abdomen showed a large enhancing mass lesion in the pelvis of the right kidney, suggestive of leiomyoma (Figure I)

Figure 1

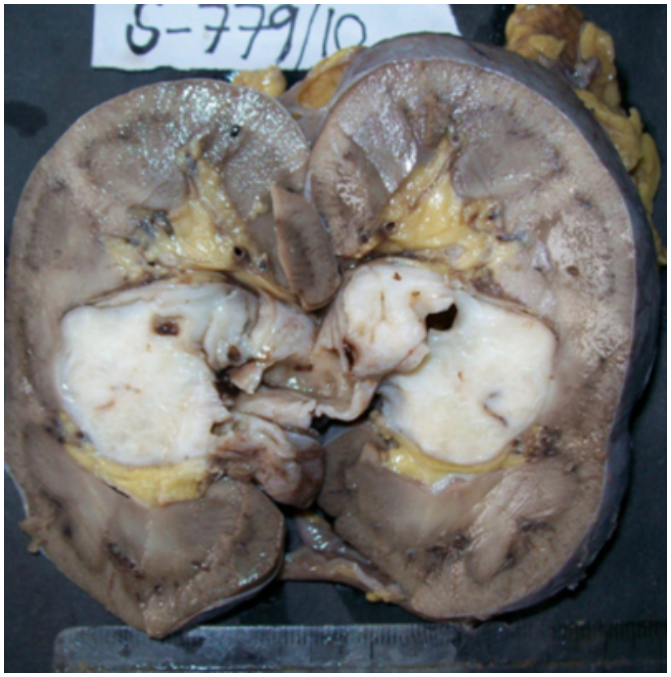
Figure 1: Contrast enhanced computed tomography of the abdomen showing a mass lesion in the renal pelvis



GROSS FINDINGS: On receiving the nephrectomy specimen, it measured 10x5x4 cm, external surface had a bulge towards the hilum, on cutting open the specimen, renal pelvis had a well circumscribed grey white firm area measuring 2x2x1 cm. It blends imperceptibly with the renal tissue near the hilus but otherwise appears to be fairly well demarcated from the kidney. The mass is uniformly firm throughout. On section, the cut-surface (which had been previously fixed in formalin) presents the so-called classical watered silk appearance of a uterine myoma. Small vascular spaces are identified in many portions of the tumor. There is no hemorrhage or necrosis. The renal tissue present in the specimen does not appear grossly abnormal (figure II).

Figure 2

Figure II: Gross specimen of the kidney showing a huge growth in the renal pelvis.

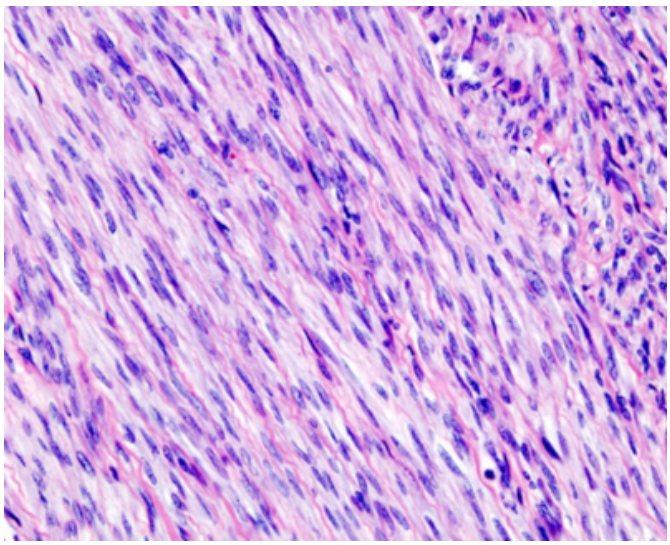


HISTOPATHOLOGY

The tumor was a well circumscribed nodular mass with a firm, graywhite solid cut surface. Light microscopic examination of the HE stained sections showed that the tumor cells were arranged in interlacing fascicles and in some areas, there was a whorled pattern. Tumor was composed of cells with fusiform nuclei and bipolar spindle cytoplasm. Nuclear pleomorphism, atypia and mitosis were absent. Stroma of the tumor was light eosinophilic and hipocellular (Figure III). Trichrome and Van Gieson stained sections revealed that there was no collagen in the tumor. Immunohistochemically, positive immunostaining was detected in the cytoplasm of the spindle cells with smooth muscle actin, desmin and vimentin. Tumor cells did not show any immunostaining for CD34, S-100 protein, HMB-45 and MIB-1 (Figure III).

Figure 3

Figure III: High power microscopic view showing smooth muscle cells (H&E X 100)



DISCUSSION

Renal leiomyomas are rare, benign spindle cell tumors that are found in approximately 5% of autopsy specimens.

Leiomyomata of the kidney in older age-groups have been reported on rare occasions from time to time, and, in general, may be said to consist of three types:

I. Small, frequently multiple myomata, several millimeters in diameter, found beneath the kidney capsule or in the superficial cortex. They are encountered as purely accidental findings at autopsy in individuals who have died from other causes.

2. Large solitary growths causing symptoms and discovered during the life of the individual.

3. Myomata which appear to be malignant or have undergone definite sarcomatous changes.

Leiomyoma is a rare benign tumor and may involve any organ of the genitourinary tract. They are usually small and discovered at autopsy. Histologically they are well circumscribed and encapsulated without showing any mitosis or atypia. The kidney is the most affected organ in the genitourinary tract (5). Leiomyoma of the renal pelvis was first reported by Litzky et al. (1) in 1971. Most of the patients were women between 24 and 50 years old as in our case (1-4). Yusim et al. reported the first case of renal pelvis leiomyoma in a male (5). The main clinical symptoms are flank pain and/or painless hematuria (1-5). The main problem is accurate preoperative diagnosis and all of the

reported cases were treated with nephroureterectomy or radical nephrectomy because of a preoperative diagnosis of malignant tumor except the one that was reported by O'Brien et al. (3). In that case, interestingly there was a cyst formation and a partial nephrectomy was performed. Despite newer imaging modalities it is almost impossible to distinguish renal pelvis leiomyoma from malignant tumors. The diagnosis can only be made after surgical excision and microscopic evaluation. The prognosis is excellent and no extrarenal invasion or metastasis has been reported (1-5). Leiomyoma should be differentiated histologically from other rare spindle cell tumors like schwannoma, angiomyolipoma, malign fibrous histiocytoma and solitary fibrous tumor (6-8). In our case, immunohistochemically tumor cells showed positive immunostaining with smooth muscle actin, desmin and vimentin. Hovewer, there was no reactivity for CD34, HMB45, S-100 protein and MIB-1 as expected in leiomyomas (4,9) but not in other tumors (6-8). Due to these results our diagnosis was leiomyoma of the renal pelvis. We think that, leiomyoma should be kept in mind in the differential diagnosis of filling defects of renal pelvis, especially in young females.

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