Abstract: Schwannomas are tumours of the nerve sheath that are usually benign. The tumour is commonly found in the head, neck, and extremities. Involvement of the kidney by Schwannomas is extremely uncommon. A preoperative diagnosis is difficult therefore, renal schwannomas are often diagnosed incidentally during pathologic examination. The renal hilum can be a site of renal schwanna development because parasympathetic nerve fibers of the kidney accompany the renal artery, which enters into the renal hilum. However, many renal schwannomas are located in the renal parenchyma and mimic a renal cell carcinoma rather than a transitional cell carcinoma. Herein, we report a rare case of a renal schwannoma with renal stone disease that mimics a renal cell carcinoma and that was treated by laparoscopic nephrectomy.

Keyword: Renal schwannoma, nephrolithiasis, hilar tumour

CASE REPORT
A 44-year-old female presented to us with left loin pain for 3 months which was dull aching in nature, non radiating and relieved by medications. Patient had no other urological symptoms. No history of gross hematuria. Patient had no other systemic complaints. General condition was fair. Per abdomen, per rectal and per vaginal examinations were not contributory. On investigations, routine hemogram was normal, urine routine and culture were normal. Urine cytology was negative. Renal and liver function tests were normal, serum calcium was 9.5 mg/dl. Chest x-ray was normal. X-ray KUB revealed a 2.2 cm radiopaque shadow in the region of left kidney (Fig 1). Ultrasound KUB revealed a 2.2 x 1.3 cm left renal calculus and a 4 x 3.6 cm heteroechoic lesion was picked up in the region of left Renal hilum. Computed tomography (CT) revealed a renal tumor approximately 4.1 cm (anteroposterior) x 3.6 cm (transverse) size in the left renal pelvis area. The mass was low-attenuated, lobulated, and minimally enhanced. The mass was primarily located in the renal hilum, and the renal pelvi-calyceal system was not clearly identified. A 2.2 x 1.3 cm calculus was seen in the left kidney with 1200 HU. Rest of the kidney was normal in uptake and excretion of contrast. (Fig 2).

Fig 3 - Diffusion weighted MRI showing Left Hilar mass with low ADC values

Fig 4 - RGP showing Irregular collection of contrast in pelvis and calyces with filling defect in upper calyceal infundibulum

A retrograde pyelography (RGP) was performed to identify the renal pelvis tumor. On RGP the Left renal pelvis was visualised with an irregular collection of contrast in the pelvis mid and lower calices. Filling defect probably calculus was seen near the upper pole infundibulum with caliectasis (Fig 4). We decided to perform a Laparoscopic Left Radical Nephrectomy – as the findings on table showed a Hilar mass arising from the operculum of the left kidney, Renal pelvis was separately visualised and no major adhesions/infiltration was encountered. Grossly, the tumor was well circumscribed and light yellow to gray white in appearance and was located in the renal hilum near the operculum (Fig 5). The HPE report was a surprise - Interstitial nephritis and the
hilum showing Schwannoma (Fig 6).

Histologically, schwannomas consist of compact cellular lesions (Antoni A tissue) and loose, hypocellular, myxoid lesions with microcystic spaces (Antoni B tissue). S-100 immunostaining was useful in the differential diagnosis and confirmed the neuroectodermal origin of the tumor. The current case had typical patterns of a schwannoma and was positive for S-100 on immunostaining. Surgical excision is the treatment of choice for these tumors. Because these tumors are usually thought to be renal cell carcinoma before surgery, a radical nephrectomy is commonly performed. If aschwannoma is suspected, laparoscopic resection may be useful because a retroperitoneal schwannoma, which is commonly localized and hypovascular, can easily be dissected from the adjacent tissues. However, local recurrence and malignant changes are possible with benign schwannomas despite a prior benign diagnosis. Therefore, complete resection of the tumor is very important. In the current case, the tumor was completely resected en-bloc, and its pathologic nature was confirmed to be benign. This case is presented for its rarity and to dwell on the facts of diagnostic dilemmas in the case of a hilar tumor of kidney.

References: