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SQUAMOUS CELL CARCINOMA OF RENAL PELVIS : A CASE REPORT

General Surgery

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ABSTRACT

Primary squamous cell carcinoma (SCC) of the renal pelvis is rare because SCC represents only 0.5% to 0.8% of malignant renal tumors. Chronic irritation, inflammation, and infection induce squamous metaplasia of the renal collecting system, which may progress to dysplasia and carcinoma in most of affected individuals. Nephrolithiasis, especially formation of staghorn calculi, is the most common risk factor for SCC, which usually occurs in older adults (age 50-70 years) with no sex predilection. Clinical features include flank or abdominal mass, weight loss, hematuria, or paraneoplastic syndromes, such as hypercalcemia. Radiologically, SCC of the renal pelvis may appear as a solid mass, hydronephrosis, or calcifications. The radiologic differential diagnosis includes primary and secondary renal neoplasms and xanthogranulomatous pyelonephritis. Squamous cell carcinomas of the renal pelvis are usually large, necrotic, and ulcerated, with gross invasion of the renal parenchyma and perinephric soft tissue. Most SCCs of the renal pelvis are moderately or poorly differentiated and typically present at an advanced stage. Surgical resection and adjuvant chemoradiotherapy are rarely curative. The prognosis is dismal with a 5-year survival rate of less than 10%.

KEYWORDS

renal cell carcinoma of renal pelvis, nephrolithiasis, xanthogranulomatous pyelonephritis

INTRODUCTION

Squamous cell carcinoma (SCC) of the renal pelvis is particularly rare and accounts for 0.5% of renal malignancies and <10% of renal pelvis tumors.[1] Predisposing factors include chronic infection, long-term exposure to calculi, hormonal deficiency, endogenous and exogenous chemicals, radiotherapy, and vitamin A deficiency.[2] It manifests a quite aggressive course and is usually diagnosed after surgery and at advanced stages. This case presents a renal pelvis SCC diagnosed following surgery in a male patient with a staghorn calculus and changes of xanthogranulomatous pyelonephritis on CT abdomen and pelvis .

CASE REPORT

47 year male patient came to OPD with complaints of right flank pain since 4 months which. was insidious in onset ,non radiating ,dull aching in nature associated with fever with chills , weight loss and loss of appetite. With no H/O hematuria or other urinary complaints . Past history :- H/O Urolithiasis (Renal calculi) since 20 yrs . On palpation a large intra abdominal tender lump felt in right hypochondriac region

ON CT ABDOMEN AND PELVIS IMAGING

- Right kidney measuring up to 13x8.8 cm in size
- Grossly thinned out renal parenchyma,
- Multiple calculi and multiple pockets of hypodense collection showing peripheral enhancement ,Thickening of gerotas fascia
- No obvious renal contrast excretion seen in right kidney

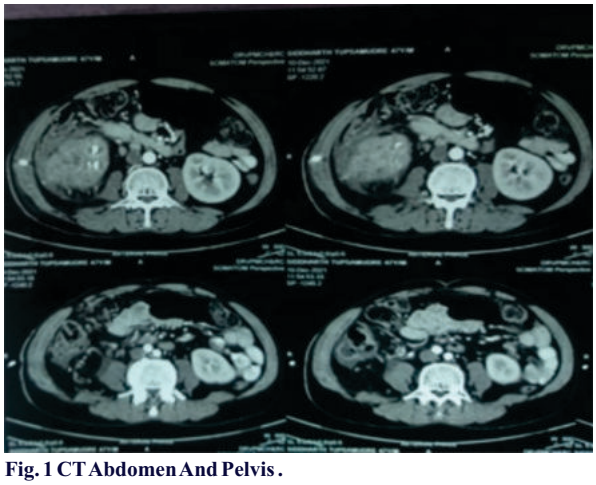

Fig. 1 CT Abdomen And Pelvis .

SURGERY

Patient underwent radical nephrectomy.
Intraoperatively the kidney was densely adherent to peripheral structures with multiple renal abscess.
Intra operative drain placed in retroperitoneum .
On post op day 6 drain was removed and patient was discharged on day 14.

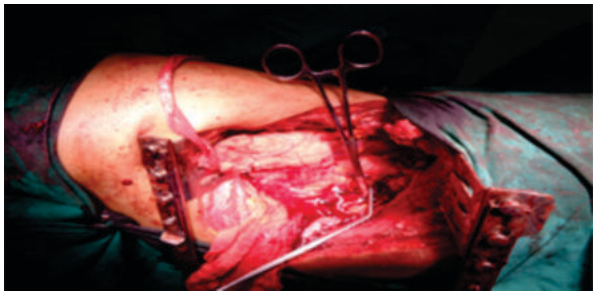

Fig2 Intraoperative Photos With Specimen

DISCUSSION

In renal SCC, which is unusually encountered in the kidney and is closely related to chronic irritation and inflammation, 50% of the patients present a history of long-term exposure to calculi, as seen in our patient.[3] Neoplasia forms on the basis of squamous metaplasia that develops due to chronic irritation.[4]

Imaging methods , particularly CT and the US, usually demonstrate the calculi and obstruction-induced hydronephrosis, causing renal SCC to go often undetected. While SCC was atypically encountered in a young female patient in our case, it is seen more commonly in late adulthood

and males, probably due to the higher prevalence of stone disease in men.[5],[6],[7] Since renal SCC does not possess any specific clinical or radiological characteristics, it is usually diagnosed after nephrectomy.[8] As surgical treatment is the main and primary treatment of SCC, this situation is not considered to be a problem concerning the course of the treatment. However, due to the aggressive quality of a tumor, most patients are diagnosed at stage pT3 or further stages and the average survival time is seven months.[9] Considering the aggressive nature of renal SCC and the short survival time, the stage of the disease must be verified following nephrectomy, and early systemic treatment must be ensured. While the effectiveness of ^{18}F-FDG PET/CT for renal malignancies is lower than for extrarenal malignancies due to the low activity of radioactive urine and renal neoplasms, it was reported to be useful in the diagnosis of SCC originating from the renal pelvis.[10] Routine preoperative use of ^{18}F-FDG PET/CT imaging in patients with chronic staghorn renal calculi to eliminate the possibility of SCC must also be considered regarding cost-effectiveness. In addition to being primarily used for the diagnosis of SCC, ^{18}F-FDG PET/CT is also practical for the diagnosis of early metastases as presented in our case.

CONCLUSION

Renal SCC, which develops as a result of chronic irritation caused by renal stone disease, is usually diagnosed histologically after nephrectomy due to lack of clinical and radiological findings. In cases that SCC, which has an aggressive course, is diagnosed after nephrectomy, investigating the presence of metastasis with ^{18}F-FDG PET/CT and initiating early systemic treatment if needed may contribute to survival.

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