



Primary Squamous Cell Carcinoma of the Renal Parenchyma with Chronic Pyelonephritis – A Rare Case Report

Authors

Dr. Priyanka Kumari¹, Dr Sunita Bharagava², Dr. Sonal Bhati³

¹M.D. Pathology – Resident, Department of Pathology, R.N.T. Medical College, Udaipur

²M.D. Pathology, Sr. Prof. and Head, RNT Medical College Udaipur

³M.D. Pathology – Sr. Demonstrator, Department of Pathology, R.N.T. medical College, Udaipur

Corresponding Author

Dr. Priyanka Kumari

M.D. Pathology – Resident, Department of Pathology, R.N.T. Medical College, Udaipur

Email *dr.priyanka00@gmail.com*, Contact no.- 8107726120

ABSTRACT

Primary squamous cell carcinoma of the renal parenchyma is a very rare entity. This is probably the first case of Primary squamous cell carcinoma of the renal parenchyma associated with chronic pyelonephritis in a 55 year old male, who presented with pain in right flank and nonfunctioning right sided kidney. Histopathology revealed the features of well differentiated keratinising squamous cell carcinoma with changes of chronic pyelonephritis.

Key words-*Squamous, parenchyma, renal, pyelonephritis.*

INTRODUCTION

Primary squamous cell carcinoma of the renal parenchyma is a rare entity and incidences ranges from 0.5 to 8%.⁽¹⁾ To the best of our knowledge, we have come across only two cases of renal squamous cell carcinomas. We are presenting 1st case of Primary squamous cell carcinoma of the renal parenchyma associated with chronic pyelonephritis in a 55 year old male. It is often unsuspected clinically due to its rarity and inconclusive clinical and radiological features.

CASE REPORT

A 55 year old male presented with pain in right flank of 2 months duration. History of fever and

urinary complaints like increased frequency and urgency were also present. There was no palpable lymph nodes. Routine hematology parameters and x-ray chest were normal. Serum urea and creatinine values were raised. there. Urine analysis revealed mild pyuria but sterile on culture and microscopy revealed presence of RBCs in urine. CECT showed well demarcated heterogenous mass in lower pole of kidney. retroperitoneal lymph nodes not appear to be enlarged, nephrectomy was done and the specimen was sent for histopathology.

On gross examination specimen of kidney measuring 8x4x4 cm. A mass measuring 5x4x3 cm was seen which was confined to the lower pole

of kidney with variegated grey white appearance and necrosis on cut section. No obvious infiltration of pelvic calyceal system was noticed. Histopathology revealed well differentiated keratinizing squamous cell carcinoma of renal parenchyma with changes of chronic pyelonephritis. The urothelial component and renal pelvis were normal.

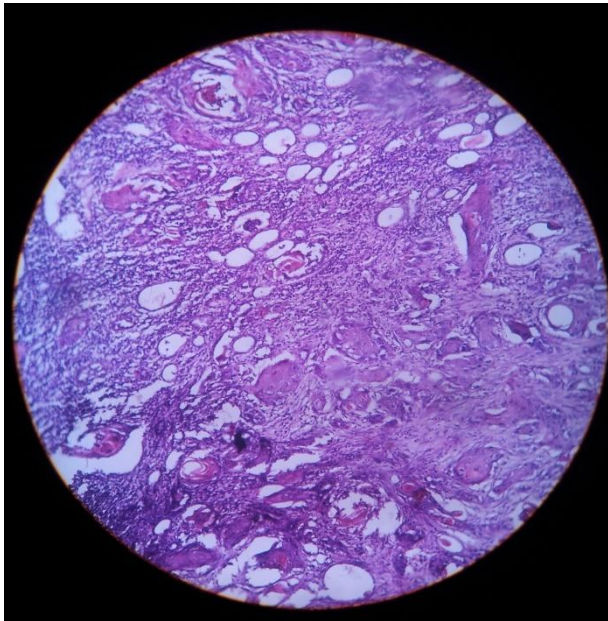


Fig.1 (10x low power view) photomicrograph showing keratinizing SCC renal parenchyma with features of chronic pyelonephritis.

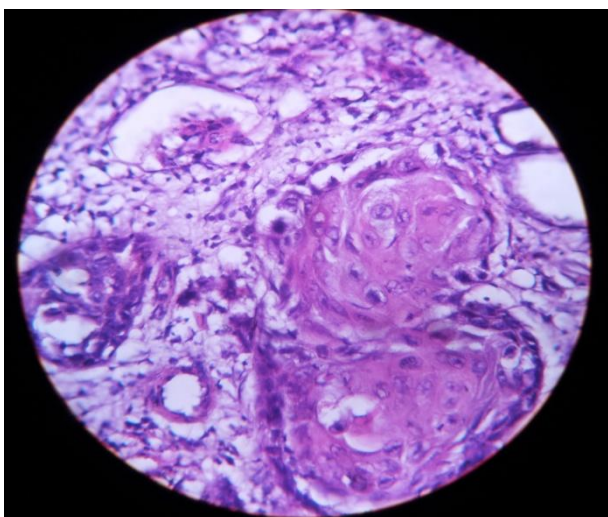


Fig.2 (40x high power view) photomicrograph showing well differentiated keratinizing squamous cell carcinoma.

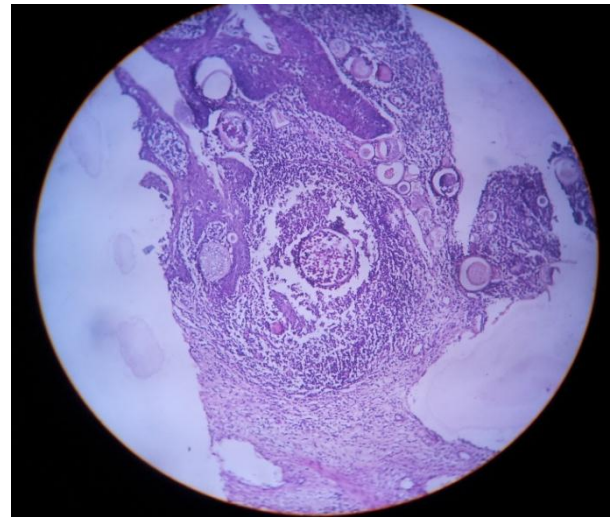


Fig.3 (10x low power view) photomicrograph showing inflammatory infiltrate in interstitium and thyroidisation of tubules (features of chronic pyelonephritis)

DISCUSSION

Only two cases of squamous cell carcinoma of renal parenchyma have been reported previously but they were not associated with chronic pyelonephritis. In our case report it was primary squamous cell carcinoma of the renal parenchyma associated with chronic pyelonephritis. Primary squamous cell carcinoma of the renal parenchyma is rare entity and accounting for 0.5 to 8%. women are affected more frequently and the most common age group being 50-70 years. SCC of urothelial tract is thought to arise through a process of metaplasia mostly keratinising squamous metaplasia of urothelium which increases the chances of squamous cell carcinoma in future. SCC of the renal pelvis is thought to arise via squamous metaplasia of urothelium due to chronic irritation.^[1] Various etiological factors that have been implicated include renal calculi, infection, endogenous and exogenous chemicals, hormonal imbalance, and vitamin A deficiency, although tumors have been reported in the absence of these factors.^[2] The genesis of renal parenchymal SCC is unknown, although a similar mechanism probably underlies. An apparent cause chronic irritation was present in our case leading to chronic pyelonephritis ultimately resulting in SCC of kidney. The squamous component present

in our case showed keratin pearls, intercellular bridges and keratotic debris and absence of urothelial involvement justified the diagnosis of SCC of renal parenchyma. PET scan and clinical history failed to demonstrate other unknown primary this also favours the diagnosis of primary SCC of renal parenchyma.

CONCLUSION

To conclude, SCC of the renal parenchyma is an extremely rare entity. The diagnosis should be made after carefully excluding a urothelial component of pelvic origin and metastasis from other site. In our case we have reached to the diagnosis of primary SCC with changes of chronic pyelonephritis after excluding the aforesaid.

REFERENCES

1. Kose F, Bal N, Ozyilkan O. Squamous cell carcinoma of the renal pelvis. *Med Oncol* 2009;26:103-4.
2. Latham HS, Kay S. Malignant tumors of the renal pelvis. *Surg Gynecol Obstet* 1974; 138:613-22
3. Mizusawa H, Komiyama I, Ueno Y, Maejima T, Kato H. Squamous cell carcinoma in the renal pelvis of a horseshoe kidney. *Int J Urol* 2004;11:782-4.
4. Reuter VE. The urothelial tract: Renal pelvis, ureter, urinary bladder and urethra. In: Mills SE, Carter D, Greenson JK, Oberman HA, Reuter V, Stoler MH, editors. *Sternberg's Diagnostic Surgical Pathology*. 4th ed. Philadelphia: Lippincott Williams and Wilkins; 2004. p. 2058-9.
5. Talwar N, Dargan P, Arora MP, Sharma A, Sen AK. Primary squamous cell carcinoma of the renal pelvis masquerading as pyonephrosis: A case report. *Indian J Pathol Microbiol* 2006;49:418-20.
6. Tyagi N, Sharma S, Tyagi SP, Maheshwari V, Nath P, Ashraf SM, *et al.* A

histomorphologic and ultrastructural study of the malignant tumors of the renal pelvis. *J Postgrad Med* 1993;39:197-201.

7. Utz DC, Mc Donald JR. Squamous cell carcinoma of the kidney. *J Urol* 1957; 78:540-52.