

LARYNGEAL SQUAMOUS CELL CARCINOMA WITH RENAL METASTASIS: A RARE CASE REPORT

Rita Kumari^{1,*}, Sindhu Sharma², Priya Gupta³

^{1,3}Senior Resident, ²Assistant Professor, Department of Pathology, GMC Jammu.

***Corresponding Author:**

E-mail: ritubhagat79@gmail.com

ABSTRACT:

Laryngeal squamous cell carcinoma tends to exhibit local spread with a low incidence of distal metastases. The majority of distant metastases are to the lungs and renal involvement is extremely rare. We present a rare case of metastatic renal tumour originating from Laryngeal squamous cell carcinoma. Fifty year old male diagnosed two years back as Laryngeal squamous cell carcinoma, underwent complete chemo radiation and was clinically free of disease for about two years, now presented with gross haematuria. Physical examination revealed left renal mass which was confirmed on CT scan as heterogeneously enhanced mass in upper part of kidney. Nephrectomy was done. On histopathological examination, well-differentiated squamous cell carcinoma of kidney was reported.

Keywords: carcinoma larynx, metastasis, Squamous cell carcinoma.

INTRODUCTION

Metastases to distant sites in laryngeal carcinoma are rare and when present, most commonly involve the lung.[1] We report a rare case of laryngeal carcinoma presenting with metastases to kidney after two years of receiving radical chemo-radiation to the head and neck region with complete local control. Laryngeal carcinoma with renal metastasis is very rarely observed and only three cases have been reported in the literature so far.

CASE REPORT

A 50 year old male who was a chronic smoker, presented in August 2010 with a complaint of progressive hoarseness of voice for the last six months. Laryngoscopy revealed a glottic tumour, 2×3cm in size, and histopathological examination of the tumour biopsy revealed well differentiated squamous cell carcinoma (SCC). The clinical stage of the tumour was T3N0M0. The patient was planned for radical chemo-radiation after complete clinical and investigative workup. After completion of treatment, patient was free from disease clinically, on direct laryngoscopic examination and on subsequent CT scan. The patient was kept on regular follow up. After two years patient presented with complaints of gross hematuria and pain in the left lower

abdomen in the outpatient department of surgery of government medical college, Jammu. On physical examination a left renal mass was palpated which was delineated as a heterogeneously enhanced mass arising from the upper part of the kidney and adherent to pancreas and spleen by CT scan. The other kidney appeared normal on CT scan. There was no significant history regarding the phenacetin consumption, renal calculi or pyelonephritis. Other systemic examination and laboratory tests were normal. The patient underwent left sided nephrectomy.

On gross examination, kidney specimen measuring 12×9×6cm in size and 400 gm in weight was obtained. On cut section 8×6 cm of tumour was seen in the upper pole, greyish white in colour, firm to hard in consistency and showed areas of haemorrhage and cystic change. About three sections from tumour (including one with adjacent kidney), two sections from kidney not involved by tumour and one section each from pelvis, renal artery, renal vein and ureter were taken. After following all steps of tissue processing, haematoxylin and eosin (H&E) staining of slides was carried out. The microscopic examination revealed well differentiated squamous cell carcinoma with areas of haemorrhage and necrosis (Figure 1a & 1b). The tumour was replacing most of the renal parenchyma invading up to the ureter, renal vein and

renal capsule while the perinephric fat was free from tumour deposits.

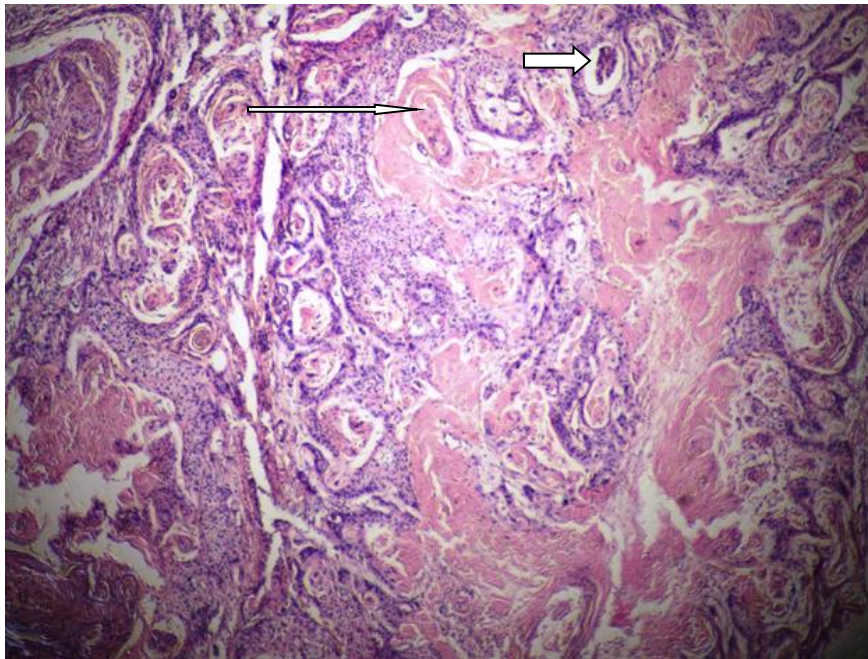


Figure 1a: Microphotograph showing well differentiated squamous cell carcinoma with formation of keratin pearls (thin arrow) within kidney, remnant glomeruli (thick arrow) also seen (H&E stain 40 x)

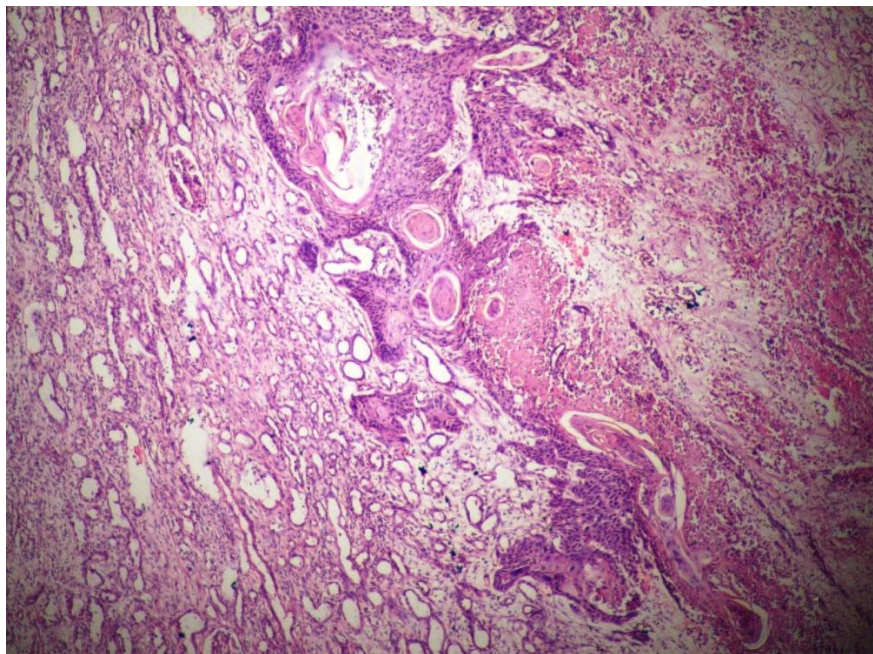


Figure 1b: Tumour (squamous cell carcinoma) showing necrosis and invading the renal parenchyma [H&E stain 40x]

DISCUSSION

Carcinoma of larynx accounts for 2.2% of all cancers in men and 0.4% in women.[1] It is most frequently seen in the

head and neck area and smoking and alcohol are the most important risk factors.[2] Most patients are in their fifth decade of life.[1] Approximately 95% of laryngeal carcinomas are of the squamous

cell type.[3] At the time of diagnosis 51% of cases have local spread, 29% of them have regional spread and 15% of them have distant spread.[2] The most common sites of metastasis from Laryngeal carcinoma are the regional lymph nodes followed by the lung.[1] In the present case the patient was a known case of primary tumour of Carcinoma Larynx and presented with renal metastasis after two years of completing radical chemo-radiation and with complete local control of tumour. Kumar N et al [4] also reported a case of Carcinoma Larynx with metastasis to all five distal phalanges of left hand after two years of receiving chemo radiation to the head and neck area with complete local control. Choyke et al. [5] reported the mean duration between the initial diagnosis of the primary malignancy and the discovery of renal metastases to be 2.2 years which is very close to our case. They also found that the renal masses in patients with other known primary tumours were four times as likely to be metastatic than a primary renal tumour. [6] Renal metastasis is generally small, bilateral and multifocal. However, there are no specific radiologic findings to distinguish a secondary renal tumour from primary renal cell carcinoma.[7] Solitary unilateral renal metastasis though extremely rare, is frequently observed in subcapsular location, explained by a tumor seeding into the vascular renal cortex, with subsequent elongated growth producing a wedge shaped appearance.[8]

A tumor with squamous cell morphology in the kidney in a middle aged to the elderly patient should be meticulously sampled to differentiate among the primary urothelial carcinoma

with squamous differentiation, primary SCC of the renal pelvis, metastatic SCC to kidney and primary intraparenchymal SCC of the kidney. The pelvic urothelium is the key structure to arrive at diagnosis in addition to extensive radiological investigation to exclude the primary SCC in any other site. In the presence of an identifiable urothelial dysplastic element including urothelial carcinoma in situ or area of transition from urothelial carcinoma to squamous differentiation, the tumor should be classified as primary urothelial carcinoma with squamous differentiation which is common in high grade and sarcomatoid variants of urothelial carcinomas. However, the conspicuous presence of keratinizing squamous metaplasia of the adjacent flattened urothelium, especially if associated with dysplasia, supports a diagnosis of primary SCC of the renal pelvis, which is rare. Primary intraparenchymal SCC of the kidney should further be distinguished from metastatic SCC with the combination of clinical history, imaging studies and histopathology. [9] In the present case no dysplastic urothelial lining or areas of transition from urothelial carcinoma to squamous differentiation were seen in the multiple sections taken and examined.

Renal metastasis of laryngeal cancer is very rare, such that only three cases have been reported in the literature so far. [10, 11, 12] In conclusion, although very rare, kidneys could be a site of metastasis from Laryngeal carcinoma. A protocol should be advised to keep such patients on regular investigative follow up including renal scans.

REFERENCES:

1. Juan Rosai. *Rosai and Ackerman's surgical pathology*. 10 ed.vol (1).Elsevier 2012:324.
2. Medenhall WM, Hinerman RW, Amdur RJ, Mancuso AA, Villaret DB, Robbins KT: Larynx. In: Perez CA, Brady LW, Halperin EC, Schmidt-Ullrich RK (eds):*Principles and practice of Radiation oncology*. 4th edition. Philadelphia:Lippincott Williams & Wilkins;2004:1094-1163.
3. Harry Quon: Cancer of the Head and neck. In: Abeloff MD, Armitage JO, Niederhuber JE, Kastan MB, Gillies Mckenna W (eds):*Abeloff's Clinical oncology*. 4th edition. Churchill Livingstone: Elsevier; 2004: 1180.
4. Kumar N, Bera A, Kumar R, Ghoshal S, Angurana SL, Srinivasan R.Squamous cell carcinoma of supraglottic larynx with metastasis to all five distal phalanges of left hand.*Indian journal of Dermatology* 2011,56(5):578-580.
5. Choyke PL, White EM, Zeman RK, JaffeMH, Clark LR. Renal metastases: clinicopathologic and radiologic correlation.*Radiology* 1987, 162:359-63.
6. Peterson RO. *Urologic pathology*. Philadelphia: Lippincott; 1992: 127.
7. Sanchez-Ortiz RF, Madsen LT, Bermejo CE, Wen S, Shen Y, Swanson DA, et al. A renal mass in the setting of a nonrenal malignancy:When is a renal tumour biopsy appropriate?.*Cancer* 2004, 101:2195-201.
8. Singh S, Chhabra S, Gupta P, Malik S, Ralli M, Parmar P. Metastatic esophageal squamous cell carcinoma in the kidney. *J Interdiscipl Histopathol* 2014, 0(0):0-0.
9. Saha K. Primary intraparenchymal squamous cell carcinoma of the kidney: A challenge to exclude the histologic mimickers. *Clin Cancer Investig J*, 2014, 3:457-8.
10. Erbag G, Dolasik I, Erdogan S, Sener SY, Dursun IH. Renal metastasis: An uncommon site of laryngeal cancer metastasis. *Abant Medical Journal* 2013, 2(3):252-253.
11. Paul NS, Harden P, Fowler RC, Chalmers AG. Renal metastases from a squamous cell carcinoma of the larynx. *British journal of Radiology* 1999, 72:1117-1119.
12. Lecoeuvre V, Degardin M, Penel N, Grosjean J, Bonodeau F. Renal colic due to kidney metastases from larynx cancer. *Rev Med Interne* 2003, 24: 67-69.