**Case Report**

**Cytological Diagnosis of Adenoid Cystic Carcinoma of the Parotid Metastatic to Kidney and Lung**

Srivastava S*, Jaiswal R*, Agarwal A*, Singh PK*, Singh SN#

**Abstract**

Metastasis of adenoid cystic carcinoma to the kidney is rare. We present a case of a 50 year old male with complaints and radiological findings suggestive of renal cell carcinoma and lung deposits. However, fine needle aspiration was suggestive of adenoid cystic carcinoma metastatic deposits. It was later elicited that the patient had undergone surgery for parotid tumour seven years back which on histology was an adenoid cystic carcinoma. The case is being presented for its rarity.

**Journal of Cytology** 2007; 24 (3) : 201-202

**Key Words**: Adenoid cystic carcinoma, kidney, metastasis, FNAC.

**Introduction**

Adenoid cystic carcinoma is a rare tumour accounting for less than 1% of all head and neck malignancies and 10% of all salivary gland neoplasms. Majority of the tumours arise in the major salivary glands, minor salivary glands of the oral cavity and mucous glands of upper respiratory tract. Other primary sites are breast, lacrimal glands, lung and prostate.

Lymph node metastases are unusual; hematogenous spread, often to the lungs is quite characteristic, metastasis to kidney being extremely rare. We could come across only one case in the literature which was diagnosed on FNAC. We present another such case.

**Case Report**

A 50 year old male with history of chain smoking presented with a right renal lump, flank pain and weight loss of two months duration. Intravenous pyelography, ultrasonography (USG) and computed tomography (CT) revealed a right renal mass measuring 10 x 6 cm lying in the upper pole. No lymph nodes were identified. Clinico-radiological features suggested a diagnosis of renal cell carcinoma. Chest radiographs revealed multiple homogeneous opacities (coin shadows) in lungs which were suspected to be metastatic renal cell carcinoma. The patient was referred to pathology department for USG guided fine needle aspiration cytology (FNAC) of the renal lump. Smears were wet fixed and stained by haematoxylin and eosin (H&E) stain.

**Pathological findings**: Smears were cellular comprising of well delineated, tightly cohesive clusters of basaloid cells surrounding mucoid, hyaline globules or clear spaces also forming honey comb (cribriform) pattern. At places dense aggregates of monomorphic small cells with uniform round to oval hyperchromatic nuclei and scanty cytoplasm were seen. Smears also showed occasional singly lying tumour cells with high N:C ratio and nuclear moulding. FNA findings were suggestive of adenoid cystic carcinoma. FNA of the lung lesion was subsequently done and revealed similar findings.

On further interrogation for any complaints or surgical stained by haematoxylin and eosin (H&E) stain.

**Fig. 1**: a) Cytosmear showing tumour cells forming cribriform pattern (H&E, x 60). b) High power view showing basaloid cells surrounding clear spaces or hyaline globules (H&E, x 240).
procedures in head and neck region, the patient gave previous history of a parotid mass 7 years back which was excised and reported as adenoid cystic carcinoma.

From all the above findings and investigations we concluded that it was a case of metastatic adenoid cystic carcinoma with primary in the parotid gland and widespread secondaries in the lungs and in the right kidney.

**Discussion**

Adenoid cystic carcinoma is a tumour accounting for 10% of the salivary gland tumours. Besides salivary gland it has also been reported to arise from breast, lacrimal glands, lung and prostate. It has not been known to arise from the kidney. The age of the patients at presentation, range from 20-84 years with median age of 52 years. Adenoid cystic carcinomas are characterized by slow growth, multiple recurrences, long clinical course, early perineural spread and late metastasis.8

The metastasis from adenoid cystic carcinomas is known to occur late, even many years after the primary tumour has been removed. Metastasis to the kidney is uncommon. Only few cases have been reported in the literature.37 Herzberg et al9 reported metastatic adenoid cystic carcinoma kidney after 12 years of mastectomy for adenoid cystic carcinoma breast. Awakura et al4 diagnosed metastatic adenoid cystic carcinoma kidney 5 years after parotidectomy for adenoid cystic carcinoma. Four years after left renal nephrectomy, multiple metastases were demonstrated in the other kidney, liver, lungs and brain by CT scan. Our patient presented with metastatic deposits in the kidney and lungs 7 years after the primary in the parotid had been excised.

Most of the cases reported in the literature were diagnosed on histology.36 We could establish the diagnosis by FNAC could be established was reported by Jiménez-Heffernan et al.7

Metastasis to the lung is hematogenous and has been reported frequently and the patients live almost in a symbiosis with the pulmonary metastatic nodules, which may remain stable for years.2 In our case too, multiple deposits were seen in the lungs. These were earlier thought to be deposits from renal cell carcinoma.

The cyto-morphologic expression of adenoid cystic carcinoma at both primary and metastatic sites is so distinctive as to permit a definite diagnosis.

**References**