

CASE REPORT

Asymptomatic Renal Cell Carcinoma Case Presenting As A Parotid Malignancy: A Rare Occurrence

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ABSTRACT

Background: Metastasis to the parotid gland rarely occurs and usually proceeds from skin cancers of the head and neck, such as melanoma and squamous cell carcinoma. When the primary cancer originates in sites below the clavicle, metastases to the head and neck are uncommon. Parotid localization from renal cell carcinoma is an extremely rare finding. Here we present a case of Renal cell carcinoma initially presented to us with parotid mass. **Case presentation:** In this case report we would like to present a case of a 60-year-old female patient presenting with a parotid swelling. Upon resection and immunohistochemical staining, the tumour turned out to be clear cell metastatic renal cell carcinoma. PET-CT revealed a metabolic active mass lesion in upper lobe of left kidney suggestive of primary renal malignancy. Metabolic active soft tissue density lesion at post-operative region of right parotid gland, suggestive of residual disease. Patient underwent cytoreductive left nephrectomy and was started on tab sorafenib 200mg twice a day. **Conclusion:** Our case presentation concludes that parotid metastasis can occur in primary renal cell carcinoma which is rare presentation. Diagnosis of such cases need careful examination and Histopathology with Immunohistochemistry as well as Radiological imaging.

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INTRODUCTION

Metastasis to the parotid gland rarely occurs and usually proceeds from skin cancers of the head and neck, such as melanoma and squamous cell carcinoma [1]. When the primary cancer originates in sites below the clavicle, metastases to the head and neck are uncommon [2-6]. Parotid localization from renal cell carcinoma is an extremely rare finding [7-8]. In this case report we would like to present a case of a 60-year-old female patient presenting with a parotid swelling. Upon resection and immunohistochemical staining, the tumour turned out to be clear cell metastatic renal cell carcinoma.

CASE PRESENTATION

60-year-old female patient presented to our institute - Guru Gobind Singh Medical Hospital on January 2017 with the chief complaint of swelling over right side of face in front of the ear for 2-3 months. Physical examination revealed an overall increase in the size of right parotid, and a solid, well-circumscribed tumor, deeply adhering to the right parotid region, without facial nerve involvement. Facial CT with intravenous contrast showed an

enhanced, poorly defined tumor of the left superficial parotid lobe. Patient underwent right superficial parotidectomy on 2/01/2017. Histopathology was neoplastic pathology suggestive of clear cell lesion of salivary gland. Patient did not take adjuvant treatment and reported after 6 months again with a pre-auricular swelling. CECT face and neck was done on 21/June/2017 which revealed a large inhomogeneously enhancing soft tissue density lesion in the pre-auricular region at the post-operative site extending to left infratemporal fossa and soft tissues of the cheek with involvement of adjoining muscles. Sub centimetric Level I b and Level II bilateral lymph nodes present. Initially, patient was advised IHC but she refused due to financial constraints. She was treated as a case of carcinoma parotid. She received 6 cycle of chemotherapy with Docetaxel, Cisplatin, 5-Fluorouracil, last on 8/12/2017. Patient showed partial response. To alleviate symptoms, she received radiotherapy at the palliative dose of 30 Gy /10# to local site from 26/12/2017 to 9/01/2018. In view of no response, patient was counselled and immunohistochemistry was done in February 2018 which was positive for PANCK, Vimentin and PAX-8,

suggestive of metastatic clear cell renal cell carcinoma (FIGURE1). Patient then underwent PET-CT in March 5, 2018 which revealed a metabolic active mass lesion in upper lobe of left kidney suggestive of primary renal malignancy. Metabolic active soft tissue density lesion at post-operative region of right parotid gland, suggestive of residual disease (FIGURE2).

Patient underwent cytoreductive left nephrectomy at Guru Gobind Singh Medical Hospital. Histopathology revealed Renal Cell Carcinoma clear cell type. Capsule involved. After that patient was started on tab sorafenib 200 mg two tablets twice a day daily. Patient is on regular follow up till date with good subjective and objective response to treatment.

Figure: 1-Ihc On Ihc –Vimentin, PAX8, CK,CK7,PAX-2 are positive

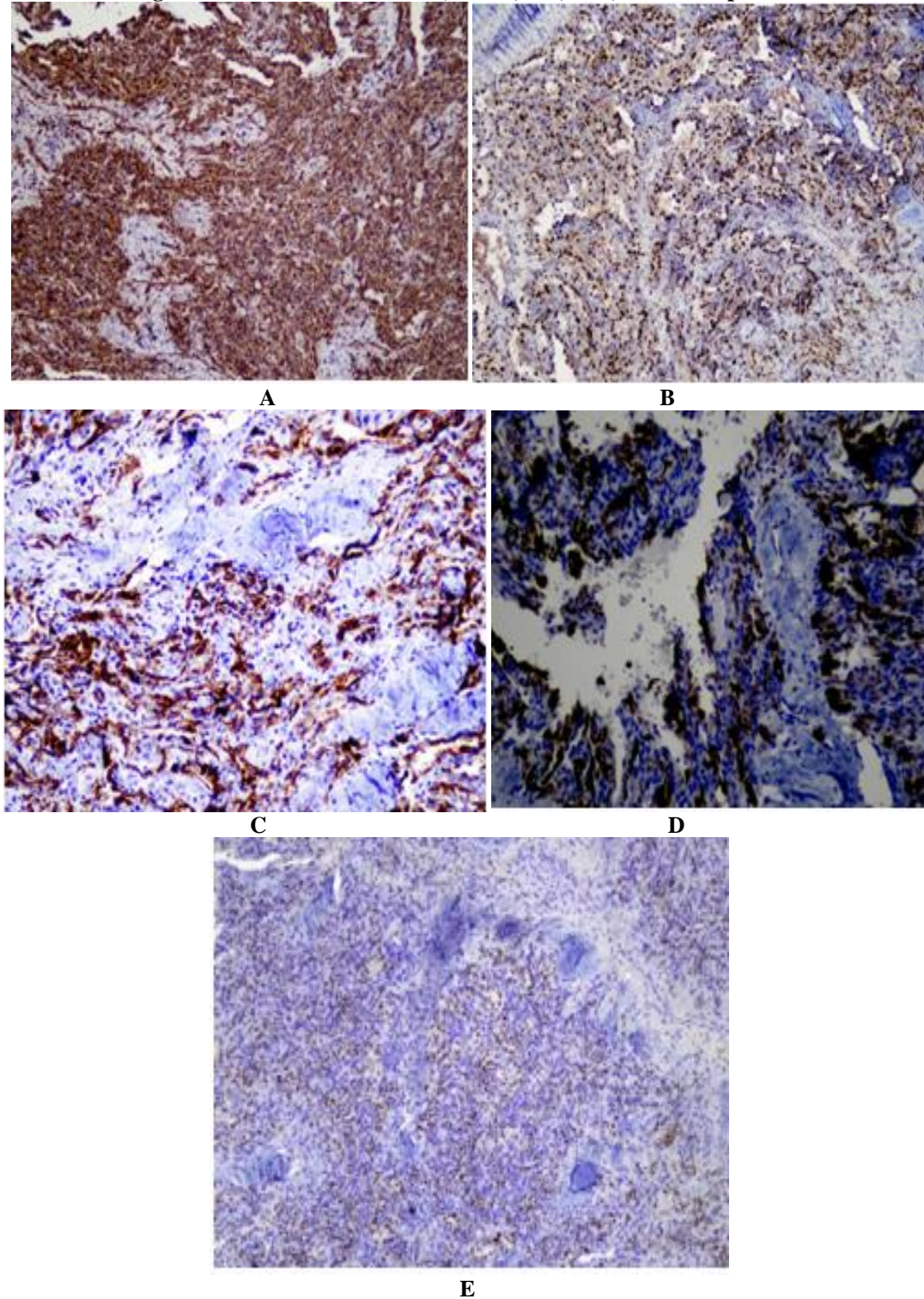
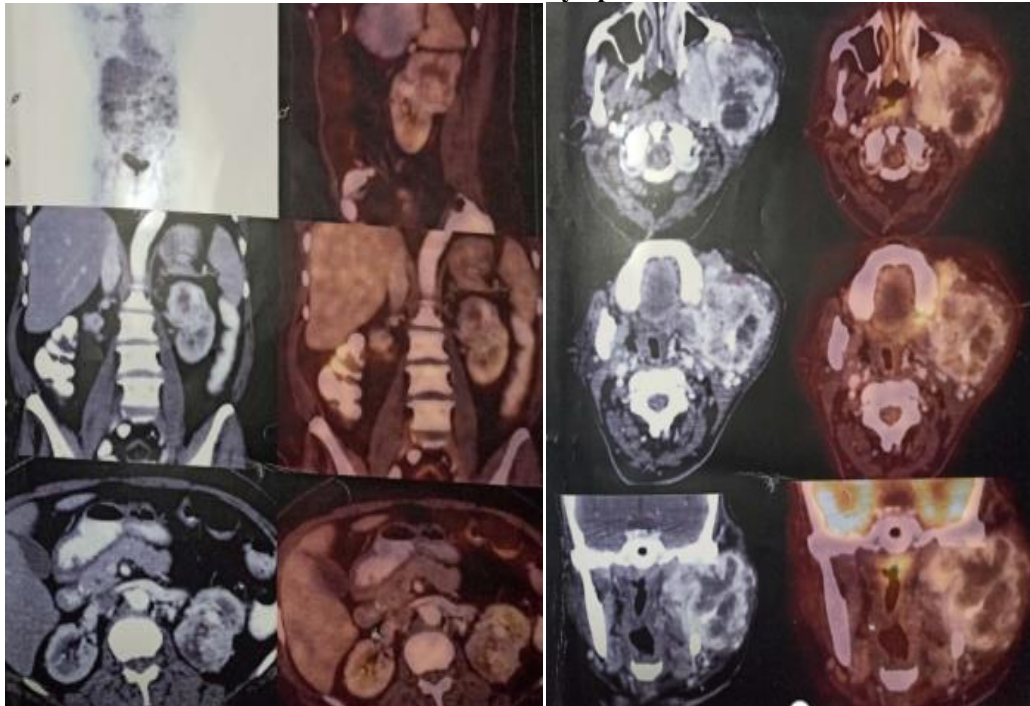


FIGURE: 2-PET CT reveals metabolic active mass lesion in upper lobe of left kidney, ?primary renal malignancy. Metabolic active soft tissue density lesion at post op bed, suggestive of residual disease. FDG active / non active lymph node.



On IHC –
 A. Vimentin
 B. PAX8
 C. CK
 D. CK7
 E. PAX-2
 are positive

PET CT DONE MARCH 2018 reveals metabolic active mass lesion in upper lobe of left kidney, ?primary renal malignancy. Metabolic active soft tissue density lesion at post op bed, suggestive of residual disease. FDG active / non active lymph node

DISCUSSION

Malignancies of the parotid gland are relatively uncommon, accounting for only 3-6% of all head and neck cancers. Most of them are primary neoplasms, metastases are uncommon. Renal cell carcinoma (RCC) represents 3% of adult malignancies, the clear cell type comprises up to 70% of all RCC. RCC has an unpredictable behavior and the unique potential to metastasize to nearly every organ in the body. Though not as frequent, metastatic RCC to the head and neck has been identified in the thyroid, salivary glands, skull base, sinuses, pharynx, tonsils, tongue, lip and skin [9] Metastasis to the parotid gland is very rare [1].

In order of frequency, renal cell carcinoma commonly metastasizes to lung, bone, liver, brain and skin, while metastases to the head and neck region are rarer (8-14%), the thyroid accounting for a large

percentage of cases [4]. The mechanism by which a renal cell carcinoma reaches the parotid gland is probably the hematogenous spread. In fact, renal cell carcinomas are hyper vascular tumours associated with multiple arteriovenous shunts. Considering the fact that kidneys receive 25% of circulating blood volume, renal cell carcinoma has a high hematogenous spreading potential [10, 11]. A parotid swelling has many differential histopathological diagnosis such as: (1) mucoepidermoid carcinoma; (2) acinic cell tumors; (3) epithelial-myoeplithelial carcinoma, and (4) primary clear cell neoplasms. Certain morphological data are useful for establishing diagnosis: renal adenocarcinoma clear cells contain periodic-acid shift (PAS)-positive and diastase-soluble intracytoplasmic glycogen. Mucoepidermoid carcinoma is occasionally composed of clear elements; however, these cells are

characteristically mucosecretory and locally keratinizing, and histochemically PAS-positive and diastase-resistant. Acinic cell tumors show clear cells in a tubular or trabecular arrangement with PAS-positive and diastase resistant intracytoplasmic mucopolysaccharide granules. Epithelial-myoepithelial carcinomas show a pathological pathognomonic architecture. The cells form tubule like structures with a central lumen surrounded by large, polyhedral clear cells encased in a basal membrane, and are PAS-positive, diastase-resistant and positive for antiS100 antibodies [3] The histochemical markers most often used to differentiate renal clear cell adenocarcinoma metastases from primary parotid neoplasms are carcinoembryonic antigen (CEA), vimentin and keratins. Parotid neoplasms usually stain for CEA and keratins and are vimentin-negative, whereas renal clear cell renal adenocarcinoma is CEA negative and contains keratin and vimentin [5] Fluorodeoxyglucose Positron Emission Tomography and computed tomography (FDG PET-CT) has emerged as the new imaging modality in staging and guiding treatment response in this era [12, 13] In our case, a PET CT was done for re-staging and to find out the primary tumour site. The results in our case correlated with immunohistochemistry led to successful management of our patient. On the basis of the extension of the disease, treatment is consistently different. Treatment of diffuse metastatic disease is a combination of chemotherapy, immunotherapy, hormone therapy and radiation therapy, but the results are dismal [14] On the other hand, it is well known that management for clinically solitary metastasis is aggressive surgical resection. In patients with a solitary metastasis amenable to surgical resection the five-year survival rate was 53% [15]. In our case, the patient was managed initially with a superficial parotidectomy. In view of recurrence, patient received palliative radiotherapy and is continued on tab sorafenib 200mg two tablets twice a day till date. The patient has shown regression of parotid region swelling with stable disease status. The patient is on regular follow up.

CONCLUSION

In our experience, patient presenting with a parotid swelling should be evaluated by immunohistochemistry and FDG PET CT on presentation. The patient with solitary metastases should be given the benefit of surgical resection of the metastatic site. Combined modality treatment

gives a better outcome than single modality therefore, surgery, chemotherapy and radiotherapy should be offered to patient for best possible outcome.

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