Abstract

Objective: To present a case of metastatic renal cell carcinoma to the parotid gland occurring 19 years after nephrectomy with review of literature.

Study Design: Case report and literature review

Methods: Literature review of cases of metastatic renal cell carcinoma to the parotid gland and discussion of a recent representative case within our tertiary care health system.

Results: We present a case of an 82 year old male who presented with a 18 month history of progressive right parotid enlargement. His past medical history is notable for renal cell carcinoma status post partial nephrectomy in 1990, followed by completion nephrectomy 15 years later. He also has a history of chronic lymphocytic leukemia, which has not been treated. He complained of some pain symptoms, but no signs of facial paralysis. Fine needle aspiration was non-diagnostic. The patient underwent a total parotidectomy with facial nerve preservation, and final pathology was consistent with metastatic renal cell carcinoma, clear cell type. Based on our literature review we believe this to be the longest disease free interval of renal cell carcinoma preceding a metastatic lesion to the parotid gland.

Case Report

G.M. is a 82 year old male with a history of renal cell carcinoma, status post partial nephrectomy which took place in 1990, who presented with a right parotid mass which had was first noted approximately 1.5 years prior to presentation. The mass had grown rapidly over the previous 6 months. He denied any facial nerve paralysis at the time of presentation.

Interestingly, the patient also had a diagnosis of chronic lymphocytic lymphoma, and FNA performed of the parotid mass which had was first noted approximately 1.5 years prior to presentation. The mass had grown rapidly over the previous 6 months. He denied any facial nerve paralysis at the time of presentation.

On 4/7/09 the patient underwent right sided total parotidectomy. Permanent pathologic specimen revealed metastatic renal cell carcinoma, clear cell type.

Literature Review

Renal cell carcinoma (RCC) is infamous for its unpredictable behavior and metastatic potential. Although the most common sites for RCC metastasis are the lung, lymph nodes, bone, liver, adrenal and brain, this neoplasm may involve any organ including the parotid as an unusual metastatic site [1,2]. It is well-described in the literature to metastasize to regions in the head and neck. In a case series of 65 patients with RCC presenting as metastatic lesion to the head and neck, 47 patients had cervical lymphadenopathy, and 18 patients presented at extranodal sites including the skin, thyroid, skull, pharynx, and lip, with no case in the parotid gland [3].

Moudouni et al. reported a 10-year lapse between the initial diagnoses of RCC and the metastasis to the submaxillary gland [4]. A recent review of all cases of RCC metastatic to the parotid gland published in the English language literature revealed a total of 25 such cases [5]. In 14 of these 25 cases, parotid metastasis was the initial presenting sign of malignancy in the kidney [5]. The time intervals from the removal of the kidney tumor to the appearance of the parotid mass ranged from several months to 10 years [5].

Though FNA is the primary method of evaluating salivary gland malignancies, it is important to realize that there is a high false negative rate in evaluation of metastatic RCC to the parotid gland. Park et al reported a 33% incidence of false negatives or non-diagnostic results in their series [5]. Immunohistochemical staining remains the gold standard for making a final diagnosis. Especially, clear cell tumours present a diagnostic challenge to the pathologist. A considerable array of diagnostic alternatives exists. Differential diagnostic possibilities include benign tumours, such as oncocytic hyperplasia, oncocytoma, myoepithelioma, pleomorphic adenoma and sebaceous adenoma [6].

The mechanism by which a renal cell carcinoma reaches the parotid gland is probably the haematogeneous spread. In fact, renal cell carcinomas are hypervascular tumours associated with multiple arteriovenous shunt. Considering the fact that kidneys receive 25% of circulating blood volume, renal cell carcinoma has a high haematogeneous spreading potential [7]. The mainstay of therapy is surgical excision.

Conclusion

Documentation of a case of metastatic renal cell carcinoma to the parotid gland is important to note as it serves to remind clinicians that any patient with a history of renal cell carcinoma is at risk for late metastases; including sites within the head and neck. Thus, metastasis is a reasonable consideration in any patient presenting with a new parotid mass, particularly those with a history of renal cell carcinoma.

References

5. Park, Y, Hlivko, Thomas. Parotid gland metastasis from renal cell carcinoma. The laryngoscope, 2002; 453-455