

Bilateral Lacrimal Gland Masses: Unusual Case of Metastatic Renal Cell Carcinoma

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Renal cell carcinoma (RCC) is the third most common neoplasm to metastasize to the head and neck.¹ The incidence of metastasis to the extracranial head and neck region is approximately 15%.² RCC is hypothesized to reach the head and neck by several different mechanisms. Gottlieb and Roland provided an excellent review of the most prevalent theories.³ The most readily evident theory involves normal venous flow through the inferior vena cava, through the lungs, and then into the systemic circulation. Another theory involves normal venous drainage through the inferior vena cava and bypassing the lungs through a persistent right-to-left heart shunt. It has also been proposed that metastases travel through the Batson paraspinal venous plexus, a rich venous anastomosis between the prevertebral and epidural systems to the head and neck, bypassing the lungs. Another alternative theory describes the spread of RCC via the lymphatic system. We describe an unusual location for metastatic RCC in bilateral lacrimal glands along with a brief review of the literature.

Case Report

A 61-year-old Panamanian woman with a history of a right nephrectomy in 1981 for RCC was referred to the Otolaryngology Clinic for evaluation of suspected metastatic lesions to both eyelids and the right neck. She had had resections of RCC metastases to the pancreas 15 years previously and to the left lung 7 years previously.

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The patient complained of bilateral peripheral visual field defect, dry eyes, and a disfiguring appearance. On physical examination, the patient had symmetric bilateral lacrimal gland masses (Figure 1) and a nontender, mobile, 3 cm, right neck mass located in the midportion of the sternocleidomastoid muscle. Her extraocular muscles were intact, and no cranial nerve deficits were present.

The patient underwent excision of the masses, including simple mass excision at the level of the neck. Pathologic diagnosis revealed metastatic RCC, clear cell type, in all specimens (Figure 2). Intraoperatively, the tumours were found to be hypervascular; however, there were no complications regarding hemostasis. The patient had an uneventful postoperative course and was instructed to continue artificial tears after discharge. The patient was seen in the clinic postoperatively and was relieved from her visual field obstruction. In addition, the patient was grateful for the return to her premorbid appearance.

Discussion

RCC accounts for 80 to 85% of primary renal tumours.⁴ RCC is classified histologically by cell type (clear, granular,



Figure 1. Preoperative photograph of the patient with bilateral lacrimal gland masses highlighting the lateral hooding of the upper eyebrows.

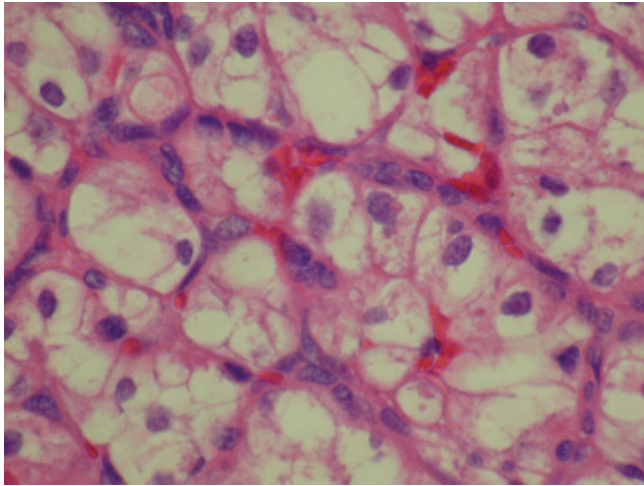


Figure 2. High-power view of renal cell metastasis removed from the lacrimal gland of the patient, which demonstrates the clear cells that make up the majority of renal cell cancers (hematoxylin-eosin stain; $\times 100$ original magnification).

spindle, or oncocytic) and growth pattern (acinar, papillary, or sarcomatoid). Clear cell carcinomas make up 75 to 85% of primary renal tumours.⁵ The most common presentations include hematuria (50–60%), abdominal pain (40%), and palpable flank mass (30–40%).⁶ The combination of all three, the so-called “classic triad,” occurs in less than 10% of patients.⁷ RCC often presents late in its course due to the lack of early symptoms, and has often metastasized at the time of diagnosis. Twenty-five to 30% of patients present with overt metastasis.⁷ The common sites of metastasis are the lung (50–60%), bone (30–40%), liver (30–40%), and brain (5%).⁶ Metastasis to the head and neck occurs in about 15% of patients.⁶ In our case, the route of metastasis to the

lacrimal glands was almost certainly the most commonly accepted method of hematogenous spread, through the lungs. Others have described isolated head and neck metastasis without evidence of lung metastasis.^{2,3,8} The overall incidence of isolated head and neck metastasis from RCC is estimated to be about 1% of cases.⁶

Surgical excision of head and neck metastasis without compromise of vital structures has been advocated as a safe and reasonable option by most authors. In our case, all lesions were excised without complications and with the preoperative understanding that surgery was palliative and not curative.

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