A rare case of isolated laryngeal metastasis 23 years after nephrectomy for clear cell renal carcinoma

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Introduction

Renal cell carcinoma accounts for up to 3% of adult malignancies, with clear cell carcinoma being the most common subtype (Suh et al, 2009). These tumours have a propensity for metastases which may present over two decades after resection of the primary tumour (Babar et al, 2019). Metastasis can present unpredictably, or in unexpected sites. This article presents a rare case of isolated laryngeal metastases 23 years after nephrectomy for clear cell carcinoma.

Discussion

Head and neck metastases occur in up to 15% of renal cell carcinomas, most commonly involving the paranasal sinuses, nose and oral cavity (Pritchyk et al, 2002). The larynx is a rare site of metastases for any cancer, being responsible for just 0.4% of laryngeal tumours (Nicolai et al, 1996).

Literature surrounding metachronous renal cell carcinoma metastases to the larynx is limited to case reports, with dysphagia and dysphonia being the most common presenting symptoms (Miyamoto and Helmus, 1973; Rossini et al, 2004; Mehdi et al, 2012). Previously

Case report

An 84-year-old man presented to the head and neck clinic with a 6-month history of dysphagia to solids and increasingly frequent episodes of choking on food. There was no odynophagia, dysphonia, haemoptysis or weight loss. His past medical history was significant for a benign thyroid cyst, hypertension, glaucoma and ischaemic heart disease that was well controlled despite requiring a coronary artery bypass graft in 2000 and subsequent coronary stenting in 2003. He had also undergone a left nephrectomy for clear cell renal carcinoma in 1997.

Examination of the oropharynx was unremarkable and neck examination identified only a small left thyroid nodule, unchanged from previous reviews. However, fibreoptic nasoendoscopy showed a mass lesion involving the posterior aspect of the right supraglottis and posterior commissure, although the vocal cords appeared healthy and mobile (Figure 1).

Computed tomography and magnetic resonance imaging of the neck confirmed an 18x15 mm soft tissue mass overlying the right arytaenoid cartilage, abutting the posteromedial aspect of the thyroid cartilage with no significant cervical lymphadenopathy (Figure 2).

Panendoscopy was performed identifying only the right supraglottic lesion, which was biopsied. Histology reported a highly vascular tumour with no involvement of overlying squamous mucosa. Cells demonstrated small nuclei and plentiful clear cytoplasm with immunohistochemistry positive for broad spectrum cytokeratin, PAX8 and CD10 and negative for CK7, CK20, p16, s100 and Melan-A. The appearance and immunohistochemistry profile were deemed to be in keeping with a diagnosis of clear cell renal carcinoma metastasis.

As histology identified a metastatic process, a computed tomography scan of the abdomen and pelvis was performed which excluded any intra-abdominal recurrence of renal carcinoma, and subsequent whole-body positron emission tomography–computed tomography identified only the isolated laryngeal metastasis (Figure 3).

Owing to the unusual nature of the tumour, the case was discussed at both the urological and head and neck multidisciplinary team meetings. Given the patient's age and comorbidities, treatment with high dose radiotherapy was initiated.

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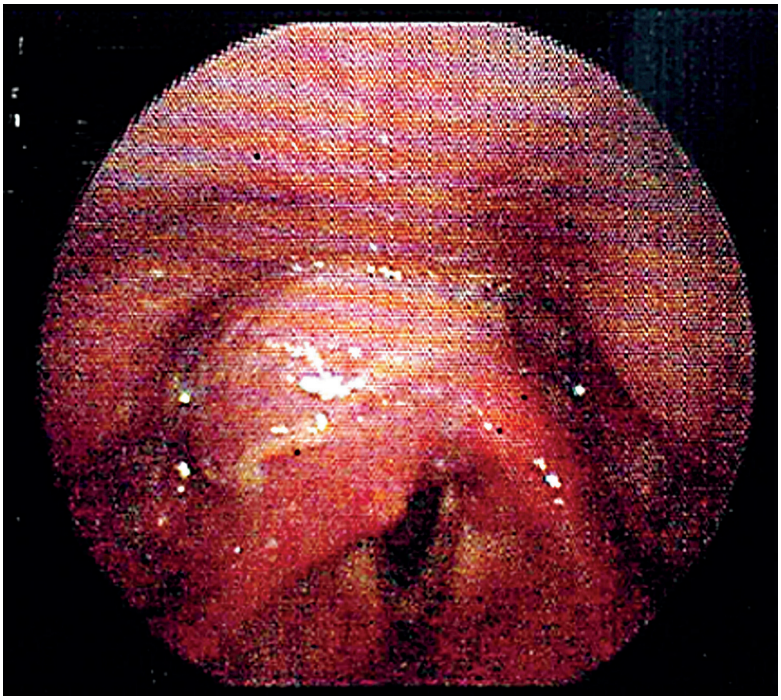

Figure 1. Endoscopic photograph demonstrating lesion of the right posterior supraglottis.

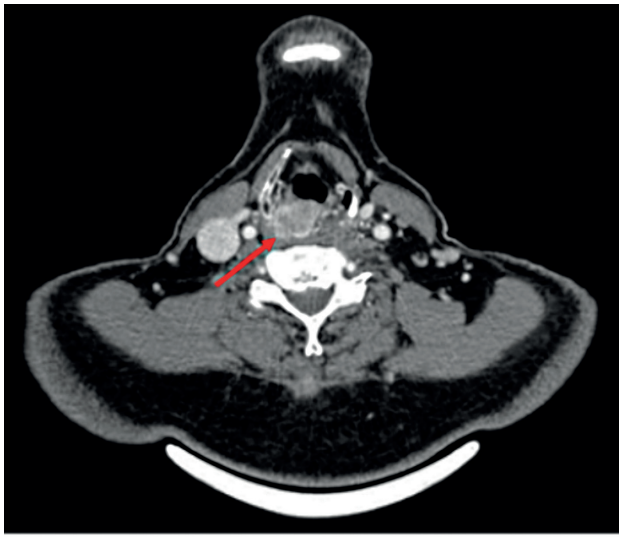

Figure 2. Axial view computed tomography scan demonstrating soft tissue mass overlying the right arytaenoid cartilage (red arrow) abutting thyroid cartilage.

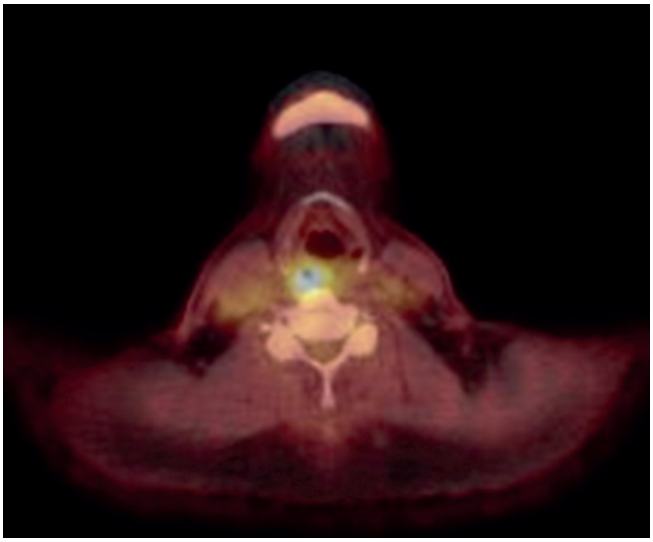

Figure 3. Axial view positron emission tomography–computed tomography demonstrating positron emission tomography-avid soft tissue lesion overlying the right arytaenoid cartilage.

the longest reported interval from nephrectomy to laryngeal metastasis was 17 years (Miyamoto and Helmus, 1973). Management of these patients is often surgical, with local excision favoured in smaller lesions of the vocal cords (Miyamoto and Helmus, 1973; Rossini et al, 2004; Sarkis et al, 2012). Radiotherapy has also been reported in cases where surgery is unsuitable with stable disease or remission reported at 14 months (Demir et al, 2012; Mehdi et al, 2012). This indicates that radiotherapy may be beneficial in selected cases despite renal cell carcinoma being notoriously radioresistant.

The literature does not provide sufficient evidence on the efficacy of these treatments because of the limited numbers and follow up. However, Takagi et al (2020) found that patients undergoing metastasectomy for renal cell carcinoma metastases had a 5-year cancer-specific survival of 82%, indicating that excision of localised disease has positive long-term outcomes.

Learning points

- Renal cell carcinoma may metastasise to rare and unexpected sites.
- Metastases may occur over two decades after nephrectomy.
- Patients with previous renal cell carcinoma who have upper aerodigestive symptoms should undergo prompt endoscopy and imaging regardless of the time interval.

To the authors' knowledge this case represents the longest interval between nephrectomy for renal cell carcinoma and development of laryngeal metastases, highlighting that these lesions may present significantly later than previously documented. As such, clinicians must have a low threshold for endoscopic assessment and imaging in patients with upper aerodigestive tract symptoms with previous renal cell carcinoma to exclude metachronous metastases. Management is complex, but excision of localised disease or radiotherapy in selected cases may be suitable options for disease control.

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