Tongue metastasis from a poorly differentiated urothelial carcinoma of the bladder

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ABSTRACT

Chemotherapy may cause oral ulceration but a thorough investigation of symptoms and signs is important to determine the underlying diagnosis accurately. We describe a case of a patient with a poorly differentiated urothelial carcinoma of the bladder developing a tongue metastasis. This is a challenging diagnosis to make given the rarity of the presentation but it illustrates the need to evaluate any new symptoms fully.

KEYWORDS

Tongue metastasis – Urothelial carcinoma – Metastatic bladder cancer

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Case History

A 61-year-old man presented to the ear, nose and throat (ENT)/head and neck emergency clinic with a painful tongue causing odynophagia. His past medical history included having been under the care of urology and undergone a bladder diverticulectomy seven years previously, following a diagnosis of intestinal metaplasia confined to the diverticulum. Subsequent follow-up over five years had shown no recurrence prior to discharge.

Four months before the patient's presentation in the ENT clinic, he had re-presented with visible haematuria and had been diagnosed with a grade 3 pT2 urothelial carcinoma of the bladder with extensive glandular differentiation. Synchronously, he had also developed severe pain at the right costal margin. CT staging demonstrated a suspicious soft tissue swelling on the chest wall. Biopsy of this area confirmed a poorly differentiated carcinoma with glandular differentiation, in keeping with metastasis from a bladder primary tumour. With urology multidisciplinary team (MDT) review confirming metastatic bladder cancer, a palliative treatment plan of systemic chemotherapy and radiotherapy to the metastatic lesion was commenced.

Subsequently, the patient consulted his oncology nurse specialist regarding a brief history of dysphagia and tongue pain. He was advised that this was likely to be a side effect of chemotherapy and was prescribed steroid mouthwashes. He was reviewed in the urology clinic again two weeks later, where a small dorsal tongue mass was palpated. He was referred urgently to the ENT team.

Examination in the ENT clinic confirmed a submucosal mass on the left dorsal tongue with no visible changes to the surface mucosa. Biopsy under local anaesthesia was

performed. Magnetic resonance imaging of the head and neck was also organised, which demonstrated a lesion in the left dorsal tongue involving the tongue base (Fig 1).

Histological analysis of the tongue specimen required careful consideration, and the original biopsies from the bladder and chest wall were compared with the tongue biopsy in order to make an accurate diagnosis. After internal peer review involving three consultant histopathologists, it was concluded that histological features of all three biopsies were identical, confirming the oral lesion as a metastatic deposit of a poorly differentiated primary bladder adenocarcinoma.

The patient continued on palliative chemotherapy and passed away three months later. Postmortem examination was not performed and the cause of death was recorded as a metastatic urothelial carcinoma.

Discussion

This case illustrates the diagnostic challenge of assessing new symptoms in a patient with an already complex malignant process. When the patient then presented to the oncology team with new odynophagia while receiving chemotherapy, he was treated for mucositis, which is the most common cause. Metastasis of a bladder carcinoma to the tongue is extremely rare, with only one other case published in the literature.¹ For this reason, when reviewed in the urology clinic, his symptoms had not responded to the initial therapy. A thorough clinical review then identified a tongue mass, which prompted urgent referral to the ENT/head and neck service.

Challenges in secondary care included accurate diagnosis and coordination of care between MDTs. At the time of

Figure 1 Sagittal magnetic resonance imaging showing the tongue lesion

presentation of the tongue lesion, the histopathology team had to consider whether the poorly differentiated carcinoma in the tongue was a metastatic deposit from the bladder or a true primary adenocarcinoma of minor salivary gland origin.

With respect to his original urological diagnosis, intestinal metaplasia of the bladder is seen in response to chronic irritation such as from recurrent infection, stones or catheters. There is contradictory evidence as to whether it represents a precursor lesion for bladder adenocarcinoma.² Adenocarcinomas make up only 2% of invasive bladder cancers but are often associated with pre-existing intestinal metaplasia. Over 90% of primary bladder malignancies are urothelial carcinomas and the remaining 8% are squamous cell carcinomas.⁵ The majority of bladder adenocarcinomas arise in acquired diverticula with pre-existing diffuse intestinal metaplasia. These tumours tend to reach an advanced stage rapidly as a result of the thin or absent muscular wall in the diverticular pouch.

In this case, the patient had been followed up for five years following a diagnosis of intestinal metaplasia in a bladder diverticulum, with a diverticulectomy performed and no sign of recurrence at the point of discharge. However, clinically, it seems likely to be of relevance as the

tumour appeared in the exact location of the excised diverticulum. In addition, given that the early biopsies showing intestinal metaplasia were atypical and that the persistence of this state in the long term is associated with poorer prognosis, it is more likely to be relevant.

The poorly differentiated nature of the bladder tumour made exact cellular typing difficult, with the pathologist favouring a urothelial carcinoma with glandular elements. It may well be that the more aggressive glandular element was the clone that metastasised, in keeping with the identical immunohistochemical findings of both the abdominal wall and tongue biopsies. This adds significance as glandular differentiation dictates more aggressive therapy.⁴

Primary adenocarcinomas represent around 20% of tongue malignancies.⁵ In contrast, metastasis to the tongue is extremely uncommon. Cases of bladder neoplasms metastasising to the head and neck include diffuse brain metastases, cerebellum metastases and bony metastases.⁶ Careful review of the initial bladder tissue, the chest wall metastasis and the tongue lesion revealed an identical histological appearance, confirming the diagnosis of a second distant metastasis in the tongue.

Conclusions

This case highlights the need for vigilance when assessing patients with advanced malignancy. In a patient undergoing chemotherapy, new oral symptoms must always be assessed as potential new metastases.

A thorough review of the clinical history and examination, supplemented by targeted biopsies and appropriate imaging, allow accurate communication within and between MDTs. Only when such lines of communication are in place can an accurate diagnosis be reached and appropriate therapy tailored to patients on an individual basis.

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