The Journal of Laryngology and Otology
September 1996, Vol. **110,** pp. 893–895

Squamous cell carcinoma of the pharynx and larynx presenting as a neck abscess or cellulitis

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Abstract
Head and neck tumours presenting as a neck abscess or cellulitis are extremely rare. We report two cases of supraglottic squamous cell carcinoma which presented as an abscess in the site of metastatic neck nodes, one of which was occult and a third case of squamous cell carcinoma of the pyriform fossa which presented as cervical cellulitis. Biopsy of the abscess wall at the time of drainage and careful follow-up may lead to an earlier diagnosis of occult carcinoma.

Key words: Head and neck neoplasms; Abscess; Carcinoma, squamous cell

Case reports

Case 1

A 74-year-old man presented with a two-day history of a red painful swelling in the right supraclavicular fossa with pyrexia. The white cell count was 16.6×10^9/l. Intravenous antibiotics were commenced but the swelling persisted despite three days of treatment. A neck ultrasound scan showed a complex cystic solid mass which was explored under general anaesthesia and a large parapharyngeal abscess was found and drained. *Staphyloccocus aureus* was cultured from the pus and the antibiotic treatment was altered appropriately. The patient was discharged home one week after surgery.

At outpatient review two months later, the neck wound had healed but was still tender. Nasoendoscopic examination of the laryngopharynx was normal. The patient subsequently failed to return for further follow-up, but re-presented 10 months after the initial episode with a hard fixed tender 5 cm neck swelling underneath the scar. Nasoendoscopy then showed a large lobulated mass on the lingual surface of the epiglottis extending onto the right aryepiglottic fold.

Histology of the biopsies of the large supraglottic tumour and neck metastasis showed squamous cell carcinoma ($T_2N_2M_0$) which was demonstrated on CT scan (Figure 1). The patient was treated with a course of radiotherapy as he was unfit for surgery. There was no clinical evidence of residual disease six months following treatment.

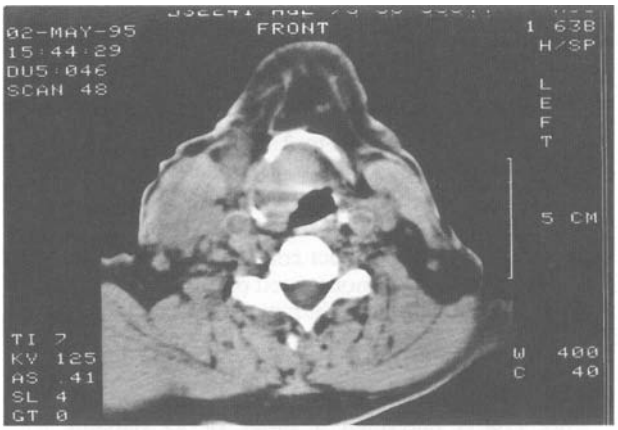

Fig. 1
Axial CT scan showing the epiglottic tumour and the right-sided neck metastasis (*Case 1*).

Case 2

A 61-year-old man presented with a painful red neck swelling following a two-week history of a sore throat (Figure 2). The swelling failed to respond to the penicillin commenced by the General Practitioner. Nasoendoscopy showed a right-sided supraglottic swelling. Although the lesion was suspected to be malignant, the differential diagnosis included a supraglottic laryngitis and therefore intravenous antibiotics were started. Endoscopy was performed under general anaesthesia as the supraglottic swelling was persistent and a lesion hidden in the pyriform fossa was biopsied and shown to consist of squamous cell carcinoma histologically. The CT scan showed an extensive tumour extending to the skin with a necrotic centre (Figure 3). The patient remains well with no sign of recurrence two years following radiotherapy treatment.

Case 3

A 43-year-old man presented with a three-month history of a hoarse voice, cough and a right neck swelling. One ml of pus was aspirated from the neck swelling. The patient was treated with antibiotics. No bacterial growth was obtained from the pus and cytology showed no malignancy. Subsequently, flexible nasendoscopy showed a large irregular lesion on the laryngeal surface of the epiglottis. Histological examination of the biopsy of the lesion confirmed a squamous cell carcinoma. An extensive

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Accepted for publication: 16 June 1996.

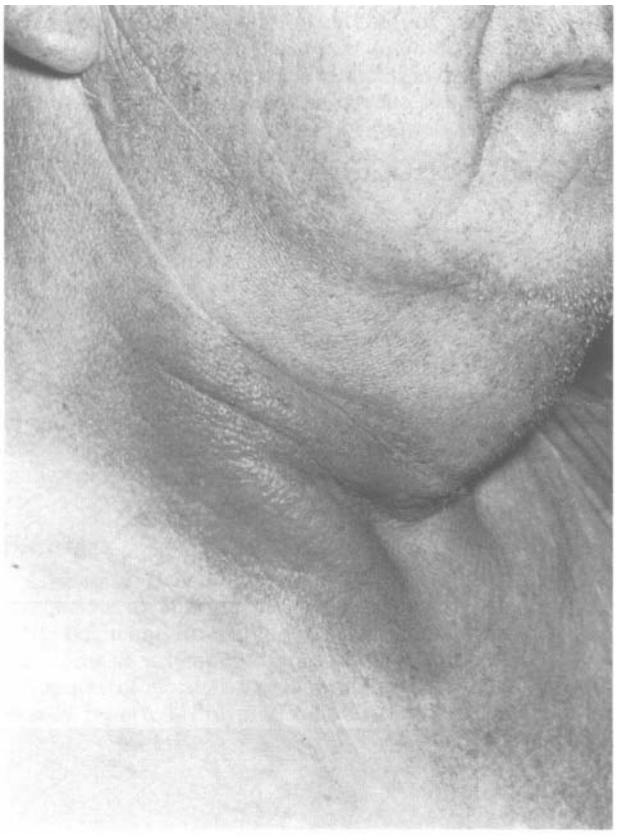

FIG. 2
Clinical photograph showing cervical cellulitis secondary to an underlying necrotic tumour mass (*Case 2*).

supraglottic tumour in direct continuity with a right neck mass ($T_4N_3M_0$) was demonstrated on the CT. The patient is being treated with radiotherapy.

Discussion

Ross (1965) described a series of 12 patients with metastatic squamous cell carcinoma presenting as abscesses in the regional lymph nodes, three of which were neck abscesses. Two of the patients with tumour neck

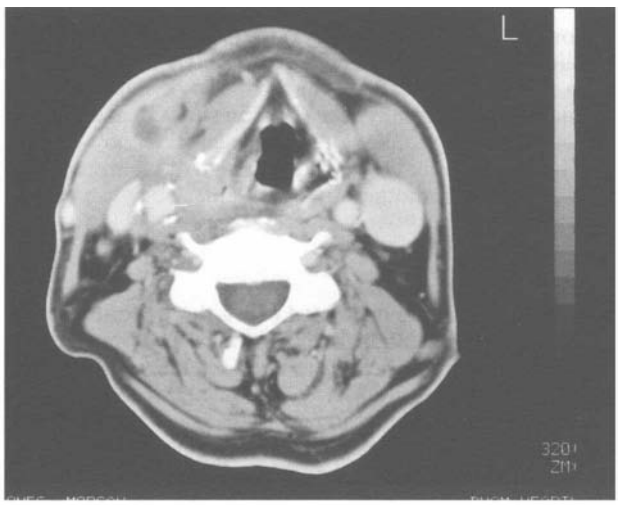

FIG. 3
Axial CT scan showing the central necrosis in the superficial portion of an extensive squamous cell carcinoma of the right pyriform fossa (*Case 2*).

abscess eventually died with no known primary tumour. But one patient developed a squamous cell carcinoma in the right pyriform fossa five months after she presented with an upper cervical abscess. In his study, seven patients had a wound breakdown or persistent wound discharge following biopsy or incision drainage of the tumour abscess and two were from the neck.

In our first case, a parapharyngeal abscess developed at the site of metastasis from a supraglottic squamous cell carcinoma. Although the abscess was successfully treated by incision and drainage and antibiotics, a biopsy of the lining of the abscess might have expedited the underlying diagnosis. The absence of persistent wound discharge or breakdown and the patient's failure to return to the outpatient clinic for regular check-up also delayed the diagnosis. It is therefore prudent in the treatment of patients with a deep neck abscess, though rarely malignant, to obtain a biopsy specimen from the wall of the abscess at the time of the drainage. Such biopsy is also essential for the detection of any fungal neck infection (Johnson, 1992).

Canalis *et al.* (1979) described the simultaneous presentation of a supraglottic tumour with an anterior neck mass which developed into a painful abscess shortly afterwards. Our second patient presented with cervical cellulitis secondary to an extensive underlying necrotic tumour of the right pyriform fossa. The development of a neck abscess was probably prevented by appropriate antibiotic treatment. The third patient presented with a parapharyngeal neck abscess which developed in a necrotic lymph node from a supraglottic carcinoma.

The cases presented here illustrate the somewhat unusual presentation of a pharyngeal or laryngeal tumour as either a neck abscess in a metastatic lymph node or cervical cellulitis from tumour central necrosis. In all cases the tumours were very extensive.

The commonest known causes of a parapharyngeal abscess are tonsillar and dental infection and rarely mastoiditis or a foreign body (Hibbert, 1987). In the majority of cases, the aetiology is unknown. Treatment with antibiotics in combination with needle aspiration (de Marie *et al.*, 1989), endoscopic or open drainage have all been known to help resolution of neck abscess. The overall mortality was said to be eight per cent despite aggressive anti-microbial therapy and early surgical intervention for deep neck abscesses (Sethi and Stanley, 1994).

The presentation of head and neck malignancy as cervical cellulitis or a deep neck abscess is rare (Nigro *et al.*, 1992; Thompson *et al.*, 1994) probably because of the relatively good blood supply to the head and neck region. However, the centre of a large malignant lesion may be susceptible to infection because of tumour necrosis resulting from a poor vascular supply as illustrated in our second and third case.

Therefore, careful follow-up after the initial treatment should be arranged if the aetiology is obscure. In the case of an abscess associated with head and neck malignancy, the management involves definitive treatment for the tumour and appropriate treatment of the abscess without compromising any pending oncological intervention.

Klebsiella sp. (Sethi and Stanley, 1994), Haemolytic streptococci and anaerobic species, especially *Bacteroides* and peptostreptococci (Tom and Rice, 1988) are commonly found in deep neck abscesses. In tumour abscesses, *Staphyloccocus aureus* seems to be the commonest organism present (Ross, 1965) and flucloxacillin should be given initially in these cases.

Oncologically, the condition may be best managed by radical surgery incorporating the entire abscess and overlying skin en bloc with a laryngectomy or laryngopharyngectomy and radical neck dissection, if feasible.

https://doi.org/10.1017/S0022215100135273 Published online by Cambridge University Press

followed by radiotherapy (Canalis *et al.*, 1979; Dong, 1992). However, the long-term prognosis for these cases remains poor due to the local tissue infiltration of tumour cells facilitated by the abscess and the extensive nature of the tumour. Despite these reservations, all three patients in this report were treated with radiotherapy alone and the second patient survived two years with no recurrent tumour.

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