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Secondary tracheal carcinoma

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Introduction

Two cases are described of secondary malignant deposits in the trachea presenting with severe dyspnoea.

Case 1.

A 70-year-old Caucasian woman was admitted with a 2-week history of increasing dyspnoea, this having deteriorated markedly over the previous 24 hours. She had enjoyed good health until 1 year previously when she was treated with radiotherapy for a poorly differentiated, non-keratinizing, squamous cell carcinoma of the cervix (Fig. 1) and since this treatment she had kept well. On direct laryngoscopy the larynx appeared normal, as was the chest X-ray; tomograms of the larynx were reported as showing evidence of extrinsic pressure on the trachea, but on closer examination of the films an intraluminal obstruction could be seen (Fig. 2). Her dyspnoea suddenly became much worse and was not relieved by parenteral steroids.

Urgent endoscopy revealed a soft friable mass in the trachea just above the carina almost occluding the airway; it was carefully reduced piecemeal with punch forceps with immediate improvement in the airway. After removal of the tissue, the trachea appeared of normal diameter with no evidence of extrinsic pressure. The biopsy confirmed respiratory mucosa extensively infiltrated by squamous cell carcinoma identical with that found in the cervix (Fig. 3). A subsequent course of palliative radiotherapy (4,500 rads) was given to the trachea and further palliative radiotherapy for other secondary deposits in her lumbar spine. She died about 6 months later with no evidence of tracheal recurrence. This is the first reported case of spread of carcinoma of the cervix to the trachea.

Case 2.

A 75-year-old Caucasian lady was admitted with a 3-week history of haemoptysis and dyspnoea. Two years previously the patient had an oesophagogastrectomy for a well-differentiated keratinizing invasive squamous cell carcinoma of the oesophagus (Fig. 4) and had been well since the operation.

Indirect laryngoscopy showed a normal larynx; chest X-ray was also normal but tomograms of the trachea were reported as showing evidence of extrinsic pressure (Fig. 5). Careful examination of the films and review of previous X-rays raised the suspicion of an intraluminal obstruction. At tracheoscopy the lumen of the trachea was virtually occluded by soft pink friable tissue; this was removed piecemeal with punch forceps and the lumen was restored to normal size, there being no evidence of external pressure. Microscopy showed the same histology as that of the oesophageal neoplasm (Fig. 6). The patient was given a follow-up course of radiotherapy (4,200 rads) to the trachea. One month later tracheoscopy showed no sign of any tumour; at the same time oesophagoscopy showed no

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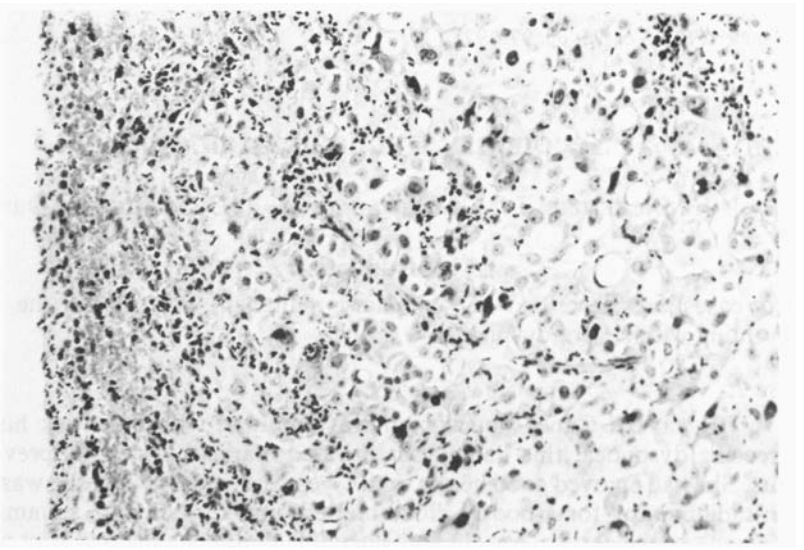


FIG. 1

Case 1. Photomicrograph of poorly differentiated squamous cell carcinoma of cervix ×220.

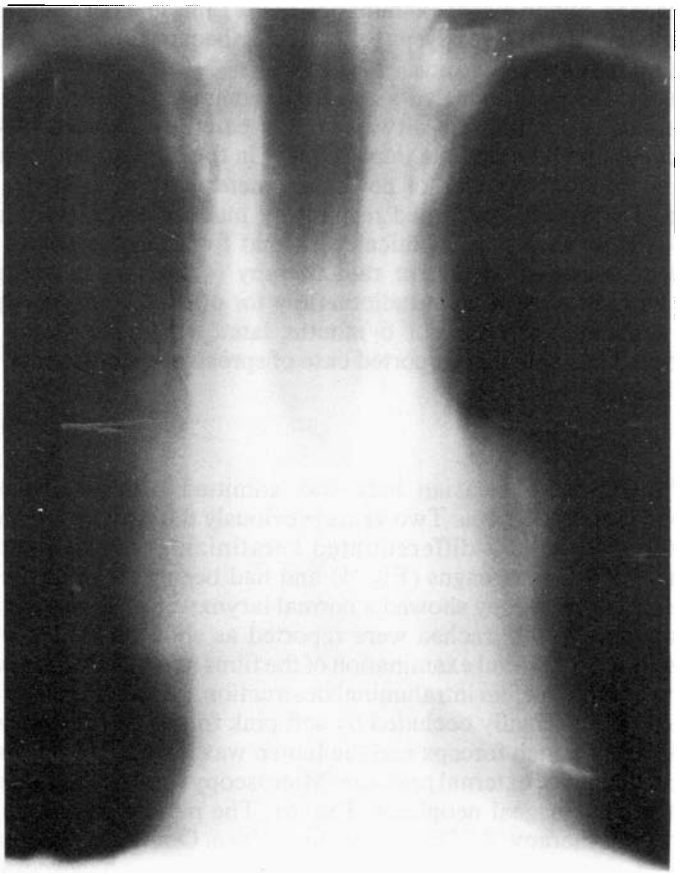


FIG. 2

Case 1. Tomogram of trachea.

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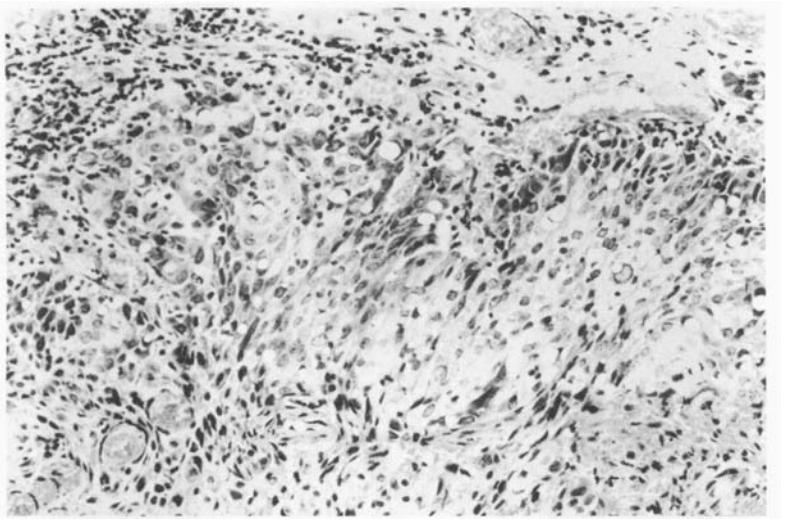


FIG. 3
Case 1. Photomicrograph of squamous cell carcinoma found in the trachea ×220.

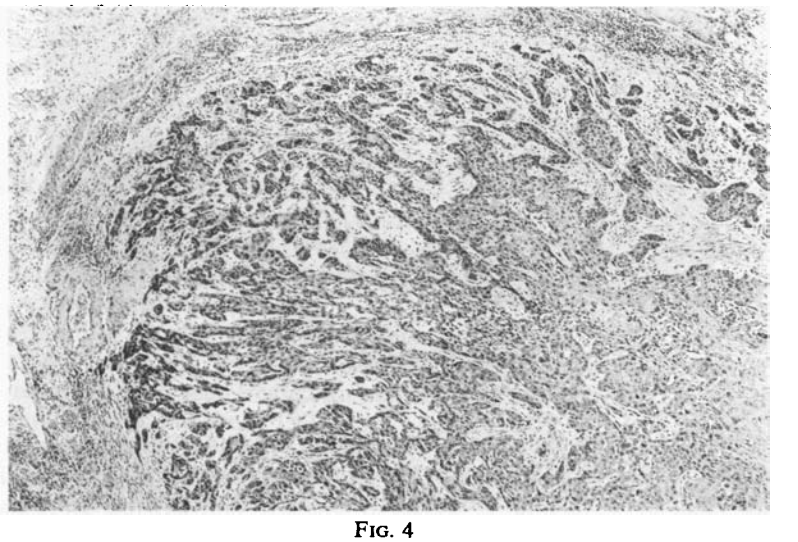


FIG. 4
Case 2. Photomicrograph of well differentiated squamous cell carcinoma of the oesophagus ×50.

evidence of recurrence of disease although there was some stenosis at 18 cm., probably the result of radiotherapy. The patient died about 6 months later from other metastatic spread of her disease to her lumbar spine and pelvis, but there was no recurrence of her tracheal symptoms.

Discussion

The trachea may be obstructed by benign or malignant lesions; the benign

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FIG. 5
Case 2. Tomogram of trachea.

lesions include papillomata, haemangiomata, amyloid, fibromas, chondromas and neurofibromas. Primary carcinoma of the trachea is rare, occurring in 1 in 1,000 carcinomas (Sweeney and Hughes, 1977). At autopsy it is found less than once in 10,000 necropsies (Salm, 1958). These tumours are notoriously silent and are often diagnosed late in their progress as they may be asymptomatic until about 75 per cent of the tracheal lumen is obstructed. It is estimated that for every tracheal tumour there are 75 laryngeal and 180 lung tumours (Belen and Rotman, 1977) and there has been no evidence of increasing incidence of these tumours in relation to carcinoma of the bronchus or to cigarette smoking.

The 3 main histological types of primary tracheal carcinoma are squamous cell, adenocystic and mucus-secreting adenocarcinoma; the most common is squamous cell and the majority are found in the lower third of the trachea (Yeb *et al.*, 1965).

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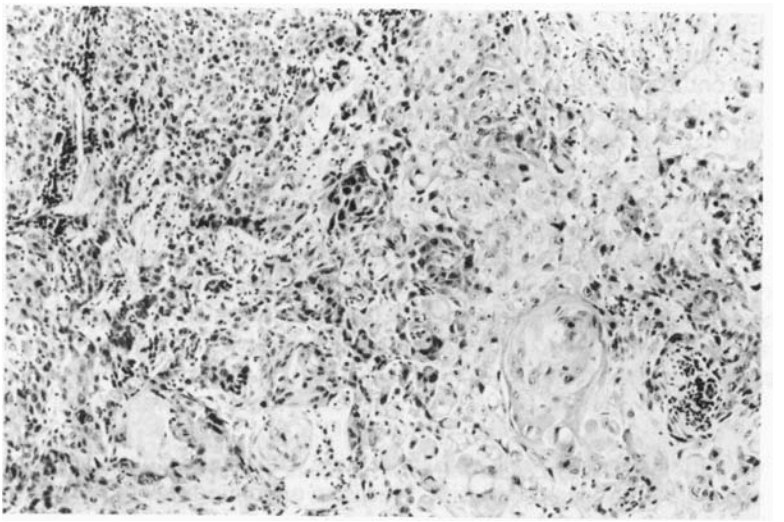


FIG. 6

Case 2. Photomicrograph of the squamous cell carcinoma found in the trachea ×140.

Secondary carcinoma of the trachea from nearby sites of larynx, oesophagus, thyroid and bronchus is uncommon but reported, most of the examples being of direct spread from the primary lesion. Secondary carcinoma from distant sites is extremely rare, there having been only 2 reported cases of carcinoma of the colon (Yeb *et al.,* 1965). (Divertie and Schmidt, 1954), one case of breast carcinoma (Garies *et al.,* 1974) and one case of adenocarcinoma of the uterus (Zerner, 1975), the primaries having been discovered and treated sometime previously and all presenting with tracheal obstruction. In both cases presented here there was evidence of other secondary disease and therefore it was unlikely that these tumours were primary carcinomas.

The presenting symptoms for primary and secondary carcinoma are the same; cough, stridor, wheezing, dyspnoea, small or large haemoptysis. Some of the patients recorded have been treated for asthma prior to diagnosis (Garces *et al.,* 1974; Meredith and Valicenti, 1977).

The actual detection of a tracheal lesion is not easy. It is difficult to diagnose tracheal obstruction on chest X-ray since no single bronchus is blocked and the lung pattern remains normal; tracheal deviation is unlikely to be seen, as the tumours are usually intraluminal. Cytological examination of the sputum is usually negative as the tumours tend to be polypoid in nature with little ulceration. Once suspected the best method of diagnosis is endoscopy.

Surgical removal of the neoplasm by tracheal resection along with adjunct radiotherapy is the treatment most likely to effect cure (Grillo, 1978) but, as in the cases described, endoscopic resection of tumour followed by a course of radiotherapy, is probably the most important form of palliation (Hajdu *et al.,* 1970).

Both patients described were elderly, with evidence of further secondary spread and surgery involving resection was not considered.

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Large numbers of patients present with secondary deposits in the lungs (Divertie and Schmidt, 1954) from a variety of primaries, and it is surprising that more secondary deposits are not found in the trachea, for there is a very close anatomical relationship between these two organs.

Both patients presented with a history of increasing dyspnoea, relieved dramatically by tracheoscopy and removal of tumour. Although the history and tomograms might have indicated tracheal obstruction from external compression or from intraluminal tumour, it was only at endoscopy that the true state of affairs was apparent with intraluminal tumour. Both patients made a good recovery from the procedure and the following radiotherapy had very little untoward effect. The diagnosis of tracheal neoplasm must always be considered in cases of rapidly increasing dyspnoea, for simple treatment can give immediate relief of very distressing symptoms.

Summary

Two patients are reported, both presenting with tracheal obstruction resulting from secondary malignant deposits. This is an uncommonly reported occurrence but should be considered in all cases of dyspnoea.

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