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Metastatic malignant melanoma of the larynx

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Abstract
Metastatic malignant melanoma of the larynx is considered to be extremely rare by most authors. This paper describes a 78-year-old patient, previously treated for cutaneous malignant melanoma and intestinal fibrosarcoma, who presented with stridor due to a metastatic melanoma in the larynx. It was a pedunculated lesion and surgical excision of the lesion was accomplished with a tonsillar snare. This paper further discusses the evolving history, diagnosis and treatment of this metastatic tumour, and reviews the literature regarding previously reported cases.

Key words: Larynx; Melanoma; Neoplasm Metastasis

Case report

A 78-year-old Caucasian woman was admitted as an emergency to the Countess of Chester Hospital with a three-week history of increasing inspiratory stridor. She had a history of shortness of breath on exercise going back several years and had at one stage been diagnosed as suffering from bronchospasm.

A suspicious-looking pigmented lesion had been widely excised from her right calf four years prior to this admission. Histological examination performed on the specimen confirmed it as a nodular malignant melanoma, with a Breslow thickness of 3 mm, that extended close to the deep resection margin. Recurrence of the same lesion together with three satellite lesions were widely excised from the original tumour site and a right groin dissection was carried out for lymph node metastases two years later. A further swelling on the right side of her thigh was noted a year later, that was confirmed as melanoma on fine needle cytology. Excision of this lesion was carried out, and she afterwards underwent a week's course of radiotherapy to the area.

She suffered an upper jejuno-jejunal intussusception later on that year, and at laparotomy a polypoid lesion was noted at the apex of the intussusception. On histological examination the tumour was shown to be a fibrosarcoma in which mitotic figures were numerous. The tumour stained positively for vimentin but was negative for melanoma markers and cytokeratin. A computed tomography (CT) scan of the thorax and abdomen revealed a rounded density sited just above the medial aspect of the right hemidiaphragm. This measured 3.5 cm at its widest point, and it was felt that this probably represented a metastatic deposit. There was, however, no evidence of any other metastases.

On examination in the Ear, Nose and Throat clinic, the patient was noted to be seriously stridulous, and indirect laryngoscopy revealed a large, smooth supraglottic lesion, that was also well demonstrated on lateral neck X-ray (Figure 1). The patient was taken to the operating theatre

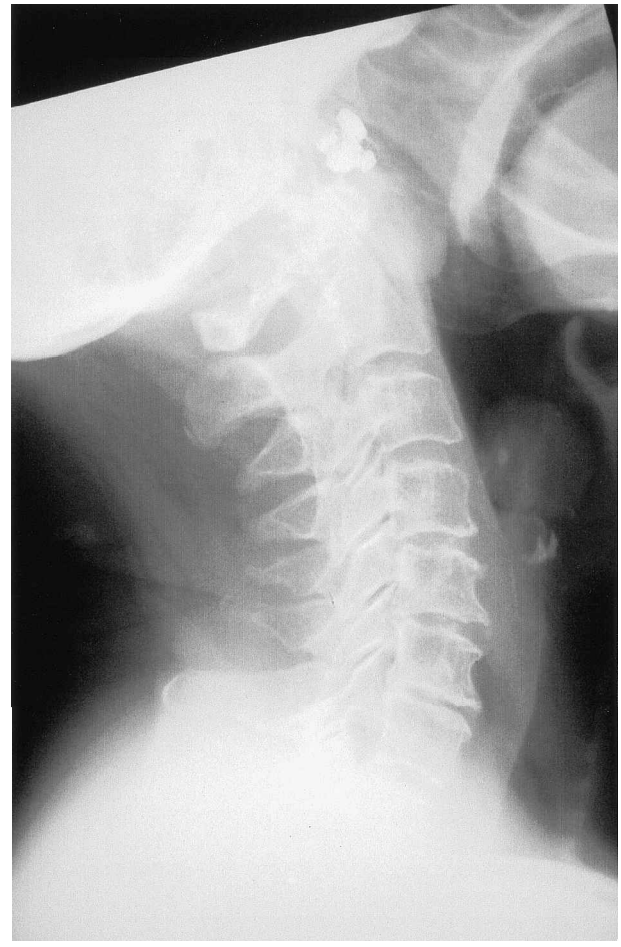

Fig. 1
X-ray of the lateral view of the soft tissue of the neck.

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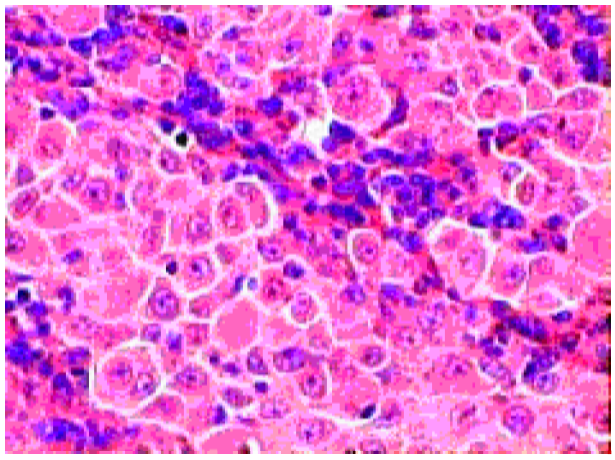

FIG. 2
Section of the specimen (H & E; ×400).

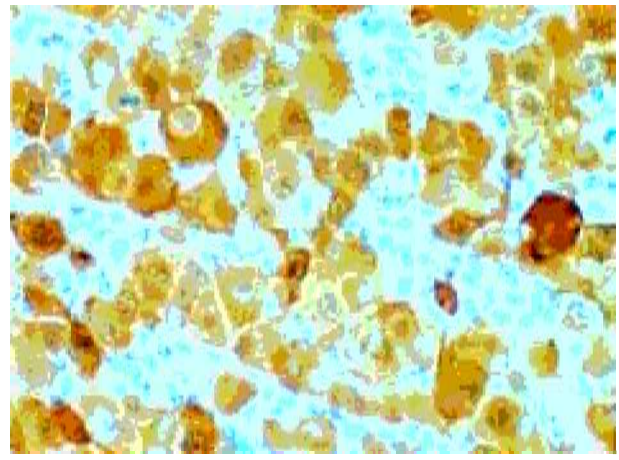

FIG. 3
Immunoperoxidase stain S100-positive (×400).

TABLE I
REPORTS OF METASTATIC MALIGNANT MELANOMA OF THE LARYNX[6,7]

Case	Author	Age	Sex	Location of Metastasis	Symptoms	Time interval between diagnosis of primary neoplasm and laryngeal symptoms	Treatment
1	Massie[8] (1900)	52	M	Subglottis			
2		49	M	Epiglottis, true and false vocal cords			
3		50	M	Epiglottis			Excision
4		78	M	Right aryepiglottic fold			Excision
5		48	M	Right hemilarynx			Excision
6	Fisher and Odess (1951)	63	F	Right vocal cord	Hoarseness, mild dyspnoea		Excision
7	Loughead (1952)[10]	68	M	Left vocal cord	Hoarseness		Excision
8	Faaborg-Anderson (1953)[11]	46	F	Left arytenoid	Dysphagia	2 years	Radiotherapy
9	Juan (1956)[12]	72	M	Epiglottis			Total laryngectomy
10	Auriol *et al.* (1959)[13]	38	M	Epiglottis, aryepiglottic fold, hypopharynx			
12	Bauer and Fuchs (1961)[14]	70	F	Right true and falso vocal cords	Hoarseness, dyspnoea	8 years	Radiotherapy
13	Franzoni (1964)[12]	59	M	Epiglottis, left false cord	Dry cought, dyspnoea, hoarseness	Some years	Total laryngectomy, radical neck dissection, radiotherapy
14	Chamberlain (1966)[15]	55	M	Right arytenoids, right true and false vocal cords	Hoarseness, dyspnoea	14 years	Radiotherapy
15	Tolstov and Saburov (1977)[16]	36	F	Left aryepiglottic fold	Hoarseness, feeling of a lump in the throat	10 months	Radiotherapy
16	Glanz and Kleinsasser (1978)[17]	40	M	Left false cord	Hoarseness	5 years	
17	Snow *et al.* (1978)[18]			Aryepiglottic fold			
18	Freeland *et al.* (1979)[19]	43	F	Left aryepiglottic fold, epiglottis, subglottis			
19	Ferlito and Caruso (1983)[6]	75	F	Epiglottis, pharyngeal wall, left false vocal cord	Hoarseness	2 years 8 months	Radiotherapy
20		60	M	Epiglottis, right false cord	None	10 months	
21	Morgan *et al.* (1985)[7]	42	M	Both false cords	Hoarseness, dyspnoea	2 years 6 months	
22		43	M	Subglottis	Hoarseness, feeling of a lump in the throat, dyspnoea	5 years	Carbon dioxide LASER excision, radiotherapy
23	Ikeda *et al.* (1991)[1]	42	M	Epiglottis	Feeling of a lump in the throat, dysphagia	2 years	Excision and KTP LASER
24	Pau *et al.* (2000)	78	F	Left aryepiglottic fold	Stridor	4 years	Excision

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as an emergency, and the lesion was seen to be pedunculated and arising medially from the left aryepiglottic fold. The lesion was overhanging the laryngeal airway like a ball valve, and was macroscopically removed using an Eve's tonsillectomy snare,[1] access to the larynx being obtained by means of a Boyle Davis gag in view of the size of the tumour whose dimensions on removal were found to be 30 × 23 × 20 mm. Post-operative recovery was uneventful, and the patient was discharged a week later.

The histological examination of the lesion revealed grey polypoid tissue covered by squamous mucosa, that was ulcerated for about half its surface. The lesion was composed of irregular anastomosing cords of epithelioid cells with large pleiomorphic nuclei, macronucleoli and expansive eosinophilic cytoplasm. Mitotic figures were present, but not numerous. An intervening fine fibrovascular stroma was present in which were closely packed lymphocytes and plasma cells (Figure 2). The immunoperoxidase stain S100 for melanoma was strongly positive (Figure 3). The diagnosis of the lesion and the cause of the patient's acute upper airway obstruction was, therefore, a metastatic malignant melanoma of the left aryepiglottic fold of the larynx.

The patient was reviewed at the combined Otolaryngology and Oncology clinic a month later. Indirect laryngoscopy revealed a satisfactory laryngeal appearance with some slough present at the tumour site. In view of her known history of metastatic melanoma it was decided to adopt a 'watch and wait' policy, rather than to perform any further surgery or embark upon a course of radiotherapy, and this lady has been regularly followed up monthly and has remained well.

Discussion

Malignant melanomas are neoplasms arising from melanocytes that originate from the embryonic neural crest. Melanocytes are identified primarily in the basal portions of the epidermis at the dermoepidermal junction.[2] Most primary melanomas are therefore cutaneous in origin. Mucosal melanomas comprise less than one per cent of all melanomas.[3]

Metastatic melanoma of the larynx is generally considered to be rare. In a series published in 1986 of 8 823 patients with cutaneous malignant melanoma, 54 (0.6 per cent) developed metastases of the upper aerodigestive tract; of these, only 12 per cent were laryngeal.[4] The commonest single metastatic tumour of the larynx, however, is malignant melanoma, in one series comprising 40 per cent of metastases.[5] To date, 23 cases of metastatic melanoma of the larynx have received detailed discussion in the world literature (Table I). Presenting features include a previous history of cutaneous malignant melanoma, followed by a history of hoarseness, a sensation of something in the throat, haemoptysis, dysphagia and a dry cough.[6] Some of these tumours were asymptomatic, however, and were discovered only at autopsy.[6] In other cases, the diagnosis of the laryngeal secondary deposit led to a search for and discovery of the relevant primary lesion.[6]

Primary mucosal malignant melanoma has been treated by local excision, cryotherapy, total and partial laryngectomy, radiotherapy and chemotherapy. In metastatic disease, however, radical surgery is seldom appropriate. Treatment of metastatic laryngeal melanoma has been carried out by a number of methods (Table I) including excision with a tonsillectomy snare with KTP/532 vaporization of residual tumour.[1]

Prognosis of metastatic malignant melanoma of the larynx is comparable to that of metastatic disease affecting other organs, that is always fatal.

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