Primary mucosal melanoma of the nasal cavity – a case report

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Abstract

Mucosal melanomas are very rare. However, cases of melanomas have been reported arising from the nasal cavity, paranasal sinuses, larynx-laryngopharynx and from combined nasal and sinus regions. The importance of clinical and histological diagnosis of this condition becomes evident when we consider the propensity this tumour has for early local and distant spread and the resultant poor five-year survival rate.

Keywords: Malignant melanoma; nasal cavity; melanin; epistaxis.

Introduction

Melanomas of the oral, nasal, paranasal and pharyngeal cavities constitute around 2 percent of all malignant neoplasms. Most mucosal melanomas in this area are of primary origin as the mucous membrane of the nose and paranasal sinuses are only rarely involved by metastatic melanoma. Between 0.5 percent and 0.8 percent of all malignant melanomas are said to arise in the nose.[1]

Case report

A fifty-five-year female patient from Tansen, developed symptoms of nasal obstruction and bleeding from the nose for the last two years. On examination, a nasal polyp was found in the left nasal cavity. Polypectomy was done and the bits of excised tissue was sent for histopathological evaluation.

Pathology

Gross examination revealed six tiny, gray white, friable bits, firm in consistency, covered by mucosa. The cut section of the largest bit showed gray white, haemorrhagic and black pigmented areas. The entire specimen was embedded in multiple sections in one block. The microscopic examination revealed tumour situated in the subepithelium composed of large epithelial-like cells with moderate amount of eosinophilic cytoplasm and round to oval eccentric vesicular neclei with single prominent nucleoli (Fig. 1). These cells were arranged in sheets and nests. Many cells contained brown pigment. Masson Fontana stain demonstrated intracytoplasmic melanin (Fig. 2), which disappeared after Melanin Bleach technique. Perl's stain for intracytoplasmic iron was negative. The overlying respiratory epithelium showed squamous metaplasia. A diagnosis of malignant melanoma was made based on these findings.

Fig. 1: Tumour cells showing round vesicular nuclei with single prominent nucleoli (H&E x 400)

Fig. 2: Tumour cells showing brownish black melanin pigment in the cytoplasm and overlying metaplastic squamous epithelium. (Masson Fontana x 200)

Discussion

Rare occurrence of malignant melanoma arising from the mucosal surface is well documented. Secondary malignant melanoma in the mucosa is extremely rare. Intracytoplasmic pigment when stained, in a case of suspected malignant melanoma, must fulfill the following criteria[2];

1. Fontana stain for melanin should be positive.
2. The pigment should be capable of being bleached by the permanganate-oxidase method.
3. A stain for iron pigment should be negative.

Several soft tissue tumours may possess epithelioid cells. This may pose diagnostic problems. Epithelioid melanotic peripheral nerve sheath tumour shows cells which do not contain melanin but have similar nuclei. Clear cell sarcoma shows reticulin fibres around tumour nests and more than 50 percent of tumour cells in this condition contain melanin. Melanotic schwannoma arises from the sympathetic nerve and is very rare. In this, heavy pigmentation and presence of calcific spherules clinch the diagnosis. Finally, demonstration of HMB-45 antigen and S-100 proteins in melanoma cells by

immunohistochemical method is helpful though it should be kept in mind that some of these chemicals maybe present in benign tumours of the same lineage. Further melanotic schwannoma also shares the same immunohistochemical properties as that of malignant melanoma.[3] Hence, extreme caution is to be exercised if the diagnosis is entirely based on immunohistochemical stains.

Conclusion

It is generally believed that this tumour arises from the melanocytes in the respiratory mucous. The majority of these tumours are situated in either the anterior part of the nasal septum or the middle and inferior turbinates. These two areas surprisingly are devoid of melanin pigment. It is to be emphasized that mucosal melanomas do not have special presenting features. The patient presents with the history of nasal obstruction and epistaxis, symptoms commonly observed in cases of ordinary nasal polyps.

Mucosal melanoma is well known for its unpredictable biological behaviour. The course of mucosal melanoma varies from local recurrences to distant extensions and metastasis. Lungs and brain constitute the common visceral sites of metastasis. Survival statistics for upper respiratory tract melanomas are poor. The expected five-year survival rate is in the range of 25 to 30 percent. However, those who received postoperative radiotherapy appeared to have done better with increased disease-free intervals and prolonged survival.[4] It is also important to think of a melanoma in all cases where the cells are large and epithelioid even in the absence of melanin as in one case, a diagnosis of amelanotic melanoma was made only after the death of the patient.[5] We present this case for its rarity.

References

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