CASE REPORT

Hyalinizing Clear Cell Carcinoma of the Soft Palate - A Case Report

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ABSTRACT

Hyalinizing clear cell carcinoma presents as a painless submucosal mass commonly located at the palate and base of tongue. It is a rare tumour and has often been misdiagnosed for other more common tumours with clear cytoplasm, such as acinic cell carcinoma, clear cell oncocytoma or mucoepidermoid carcinoma. HCCC has been reported as a low grade malignant tumour with a high rate of cervical metastases. Due to its rarity, there is no treatment protocol. However, the treatment of choice is wide local excision and the neck disease is treated with neck dissection or radiotherapy or both with no conclusive outcome as incidence is too low or underreported with no long term follow up. Our case highlights the diagnosis difficulties in such rare cases, and the need for longer follow up post excision to determine outcome and recurrence rates.

Keywords: Hyalinizing clear cell carcinoma, Minor salivary glands, Immunohistochemistry, Palate

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INTRODUCTION

Hyalinizing clear cell carcinoma (HCCC) is a rare, malignant tumour accounting for less than 10% of head and neck cancers. It commonly affects the minor salivary glands, particularly in women. We report a case of clear cell carcinoma of the soft palate which was successfully treated with wide local excision and has remained asymptomatic after a 5-year follow up. Due to the rarity of this tumour, there is a lack of evidence for the best treatment protocol in the reported literature.

CASE REPORT

A 45 –year- old gentleman presented to our department with painless mass in the soft palate for 3 months. He experienced some bleeding from the mass after meals. He has no history of trauma. No constitutional symptoms. He is a non smoker. On examination, there was a 2x2cm soft, smooth, blueish swelling over left soft palate, which bleeds on contact as shown in fig.1. The lesion was confined to soft palate and not communicating with nasopharynx .There was no loosening of teeth. There was no palpable neck nodes. CT showed a well defined

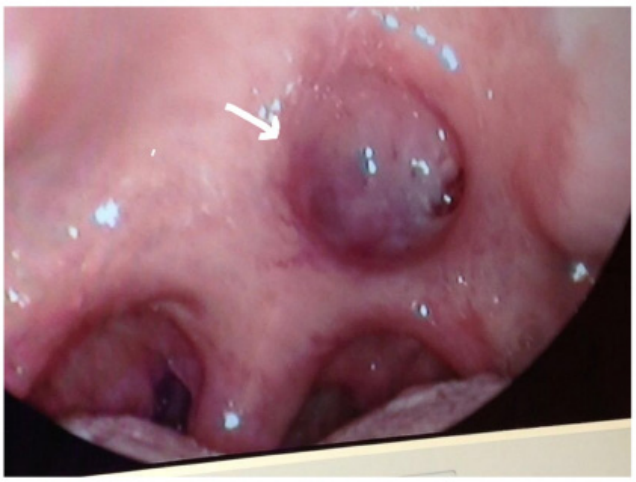

Figure 1: Intraoral photograph of the patient, showing 2x2cm well defined focal lesion at the left side of the soft palate, at the junction of the hard and soft palate

focal lesion at the left side the soft palate, measuring 1.3cm x 1.5cm x 1.5cm. The lesion is heterogenous and mildly enhancing, with no internal calcification and no surrounding bony erosions. There is no significant vascularity surrounding the lesion. He underwent a wide local excision under general anaesthesia. There was no biopsy taken preoperatively, as the wide local excision was meant to be diagnostic as well as therapeutic. Intraoperatively, the mass is located at the junction between the hard and the soft palate, involving the

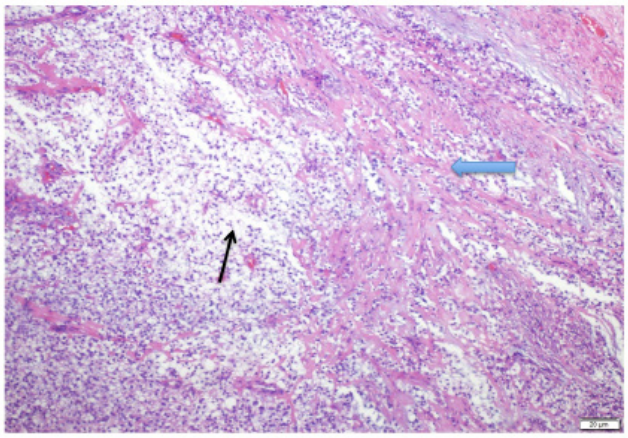

Figure 2: Clear cells (black arrow) with bands of intervening hyalinized stroma (blue arrow)

palatoglossus muscle. Histopathological examination showed a vaguely circumscribed tumour, partly covered by squamous epithelium and skeletal muscle fibres within the deeper resected areas. Tumour cells arising from minor salivary glandular tissue are composed of solid sheets, trabeculae cords of large, monomorphic clear cells infiltrating the surrounding skeletal muscles fibres and perineurium, however there was clear margins exceeding 5 millimetres. Numerous bands of intervening hyalinized stroma are seen and there was glycogen within the tumour cells. Immunohistochemical staining are positive for cytokeratin (CK5,6, and 7) and P63, but negative for S100, SMA, and CEA. Patient did not undergo radiotherapy as margins were clear, and there was no recurrence on one year follow up.

DISCUSSION

Hyalinizing clear cell carcinoma (HCCC) most commonly occurs in minor salivary glands of the oral cavity of middle aged women, affecting mainly the palate and base of tongue (1). Other sites include, the parotid gland, subglottic larynx, nasopharynx and hypopharynx, which are less common.(2)

Global annual incidence of all salivary gland tumours are 0.4-13.5 cases per 100,000 population. In the U.S., salivary gland tumour accounts for 6% of all head and neck cancers and 0.3% of all malignancies.(3) There is a higher frequency of salivary gland tumours in Malays rather than Chinese and Indians. (3) 50% of the malignant tumours of the salivary gland arise from the minor salivary glands. (3)

Clinical presentation is a slow growing painless, submucosal mass in the oral cavity without surface ulceration unless subjected to secondary trauma. Other presentations are bleeding from the mass, pain at the mass when swallowing or from ill-fitting dentures. Patients present with a foreign body sensation in the throat for lesions at the base of tongue. Milchgrub et al reported 2 out of 11 patients that had cervical node metastases on neck dissection.(1)

HCCC is usually infiltrative and can spread to locoregional lymph nodes. Perineural spead is often seen(1). An important feature of this tumour is, its slow growing nature, hence it can be characterized as a low grade malignant tumour.

Histologically, it is characterized by a monomorphous population of polygonal to rounds cells that have clear cytoplasm with standard haematoxylin and eosin stains. Tumour cells are arranged in solid cell masses, sheets, nests, cords or trabeculae with absence of ductal structures and prominent glycogen content.(1,3) Stroma is composed of thick bands of hyalinized collagen.

Due to its rarity, it can be easily misdiagnosed for other tumours that have clear cytoplasm such as acinic cell carcinoma, clear cell oncocytoma, mucoepidermoid carcinoma, epithelial-myoepithelial carcinoma, sebaceous carcinoma, metastatic renal cell carcinoma, polymorphous low grade adenocarcinoma, pleomorphic adenoma and Pindborg tumour (1,3,4).

Immunohistochemical staining aids in diagnosis by helping to identify the cell of origin of the tumour. Stains are positive for PAS but negative for mucin. The cells are reactive with antibodies against cytokeratins and epithelial membrane antigen but are non reactive for S-100 protein antigen and smooth muscle actin. Diagnosis is made by exclusion once other specific tumours with clear cell morphology has been excluded. (4). Myoepithelial cells show immunoreactivity to S-100 protein and vimentin. Epithelial-myoepithelial carcinoma are positive for S-100 protein, muscle specific actin.

HCCC is rare, with no clear treatment protocol. However, staging follows TNM Classification of oral cavity American Joint Committee on Cancer (AJCC) 8th Edition. Although the tumour is reported as a low grade malignancy, there has been reports of metastases to neck and lung. Since hyalinizing clear cell carcinoma is a tumour with low malignant potential, wide local excision is the treatment of choice. However, results from a 25-year review by Solar AA et al, highlighted the importance of a thorough cervical lymph nodes assessment, as they found a high rate of cervical lymph node metastasis. For this reason, neck dissection should be considered in the management of HCCC. Pre- or post-operative radiotherapy has been reported, with some known recurrence despite undergoing post-operative radiotherapy (5). In our patient, radiotherapy was not given as the margins were clear.

Solar AA et al reported a series of 8 patients, where there was recurrence in 3 of 8 patients, one of which had undergone post op radiotherapy (2). This may be unrepresentative, as it is a low incidence or could be

underreported with short follow up. Table I shows a summary of the reported cases throughout the years, outlining presenting complaint, along with treatment and outcome.

There is no trend emerging as such, when we compared the previous publications, authors found that the incidence is very low.even the age group varies from 25 to 86, with a median of 57. There is difference in gender predilection as well, 71% of HCCC occur in females, from the literature (2). After extensive literature review and with the limited available data pertaining to our case report, our proposed protocol is in Table II.

CONCLUSION

The purpose of this case report is to add the presentation and long term outcome of this rare entity to the literature. Awareness of this rare pathology will reduce the misdiagnosis from other clear cell tumours.

Table III: Management guidelines

Stage	Management
I	Wide excision
II	Wide excision
III	Wide excision and neck dissection
IV A, IV B	Wide excision and neck dissection
IV C	Chemotherapy

ACKNOWLEDGEMENTS

I would like to thank the editors and reviewers in charge of Malaysian Journal of Medicine and Health Sciences for giving us the opportunity for sharing our case and we hope it will be beneficial to the readers. We would also like to acknowledge our univeristy and Hospital involved as well as the patient and family members for providing us the time and permission to write this report.

Table I: A summary of the reported cases throughout the years, outlining presenting complaint, along with treatment and outcome

REFERENCE	NO. OF PATIENTS	AGE (years)	SEX (Male/ Female)	CLINICAL COMPLAINT	DURATION (months)	LOCATION	SIZE (cm)	STAGE	TREAMENT	Adjuvant: Radiotherapy/ Chemotherapy	METASTASIS	FOLLOW UP (months)	OUTCOME
Grenevicki, 2001[8]	1	53	F	Epistaxis Painless palatal mass	2 weeks 9 months	Hard Palate	5	Stage IV	Chemotherapy	Refused radiotherapy.	Yes (Lungs)	36	Poor
Manoharan, 2002[9]	1	40	F	Painless swelling, left floor of mouth	24	Left side of mouth to floor of mouth with Left submandibular lymph node	5	Stage IV	Left hemimandibulectomy, inferior alveolar nerve resection Selective neck dissection	-	Nil	22	No recurrence
Chao, 2004[10]	1	42	Female	Painless, palatal mass	36	Hard palate	2	Stage 1	Wide excision of tumour, excision of underlying palatal bone and maxilla	-	Nil	8	No recurrence
Solar, 2008[3]	8	34-85	M:F 2:6	Painless, non ulcerated mass (6 patients) Ulcerated painful mass (2 patients)	-	Hard Palate (3) Maxilla (2) FOM (1) Buccal (1) Maxillary vestibule (1)	1-3	Stage I (3 patients) Stage II (2 patients) Rest (unknown)	Wide excision (all) Radiotherapy (3) Chemotherapy (1)		Nil	>12 years	3 recurrent disease: Stage 1(2) Stage 2 (2)
O'Sullivan-Meija, 2009[11]	8	25-86	M:F 2:6	Painless intraoral mass/ulceration	-			Stage I (4 patients) Stage II (2 patients) Stage III (1 patient) 1 is unknown	Wide excision	1 had adjuvant radiotherapy	Nil	1-10 years	Stage I (1 recurrence) Stage II (1 recurrence) Stage III (no recurrence)
Agrawal, 2014[12]	1	52	F	Painless mass	12	Hard Palate	2.5	Stage II	Hemi-maxillectomy, RND	Nil (margins clear)	Nil	12	No recurrence
Jayasree, 2016[13]	1	40	F	Painless intraoral mass, right facial swelling	7 years	Hard Palate	7	Stage IV	Wide resection	Defaulted radiotherapy	-	-	-
This case Safuraa, 2018	1	45	M	Painless, palatal mass	3	Hard palate	1.5	Stage I	Wide excision		-	12	No recurrence

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