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Granular cell tumour of the tongue treated by radiofrequency ablation

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Granular cell tumour of the tongue treated by radiofrequency ablation

AIM: *To report on a case of granular cell tumour occurring in the tongue surgically removed by surgical radiofrequency, with histological examination.*
MATERIAL OF STUDY: *Discussion on the clinico-pathological characteristics of the granular cell tumour and the surgical treatment by surgical radiofrequency: the differential diagnosis is also discussed.*
RESULTS: *Histological examination is mandatory for the final diagnosis. Surgical radiofrequency is an useful medical device to achieve good quality surgery with minimal post-operative course.*
DISCUSSION CONCLUSIONS: *Although rare, granular cell tumour should be always considered in the differential diagnosis of nodular lesions of the oral mucosa above all when the tongue is involved and a yellow appearance is detectable. The surgery will be guided by the clinical diagnosis and accurately performed to prevent recurrence. A medical device promoting reduction of the intra-operative bleeding is suggestable for such surgical treatments.*

KEY WORDS: Granular cell tumour, surgical radiofrequency, neurogenic tumour

Introduction

Granular cell tumour (GCT) or Abrikossoff's tumour is an uncommon benign neoplasm of the peripheral nerves that can occur in the whole organism, including the orofacial region [1,2]. Although aggressive and malignant variants of this neoplasm with distant involvement have been previously described, the nature of GCT is usually benign [1,3]. The aetiology remains still unclear and its histogenesis about a possible muscolar, connective or neural origin has been broadly debited, although the neurogenic origin is widely supported by immunohistochemical localization of neuron specific enolase and S-100 protein markers in the tumour cells [4,5,6].

GCT can occur at any age but has a peak of incidence in the 6th decade of life with a greater prevalence in female; the most frequent involved oral sites are the dorsum of the tongue and the oral mucosa; it has usually a single appearance thought cases with multiple localizations both synchronous and metachronous have been reported in the 5-15 % of cases [1,2,5].
Clinically, GCT has a nodular appearance of yellowish colour covered by not ulcerated mucosa, located in the submucosal tissues with hard consistency. Large lesions may sometimes can show epithelial ulcerations which provide the appearance of malignant neoplasm.
Histologically, GCT is not capsulated, and consists of very large cells whose cytoplasm is replaced by numerous fine granules that are intensely eosinophylic, with small nuclei, situated in the cell centre or periphery. These cells are dispersed among bundles of normal striated muscle cells. Besides, GCT induces "pseudoephiteliomatous hyperplasia" of the associated mucosal epithelium that closely mimics the invasion patterns of squamous cell carcinoma creating some-

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times several problems in the differential diagnosis [3,4,6]. We report on a case of GCT occurring in the ventral tongue of a middle-age white woman, surgically removed by surgical radiofrequency; the differential diagnosis of such neoplasm is discussed.

Case Report

The patient was referred to our observation for the clinical evaluation and treatment of a single and slow-growing nodule of the ventral tongue of two months duration. The lesion was indolent, not correlated with previous trauma or irritation factors, on the lingual margin. Clinically, the tumour appeared as a smooth-surface nodule, hemispheric, firm, with a yellowish colour and cover by normally coloured mucosa (Fig. 1).

The lesion has been enucleated under local anaesthesia by using a surgical radiofrequency with steel fine needle (Figs. 2, 3) with the following parameters: hyperpulsed modality, cut power 70w, coagulation 40, frequency 90 hz, time 2. Postoperative course was without complications. The histological examination leads to the diagnosis of GCT. (Fig. 4); no immunohistochemical investigations were necessary for the differential diagnosis.

Discussion and Comments

The granular cell tumour is an uncommon benign neoplasm with a tendency to recur, above all if un-completed removed [1,2]. Clinically, the appearance of GCT is quite similar to other benign connective and neural neoplasms; the differential diagnosis includes fibromas, lipo-

Fig. 1: Nodular and firm lesion of the ventral tongue with a yellowish appearance.

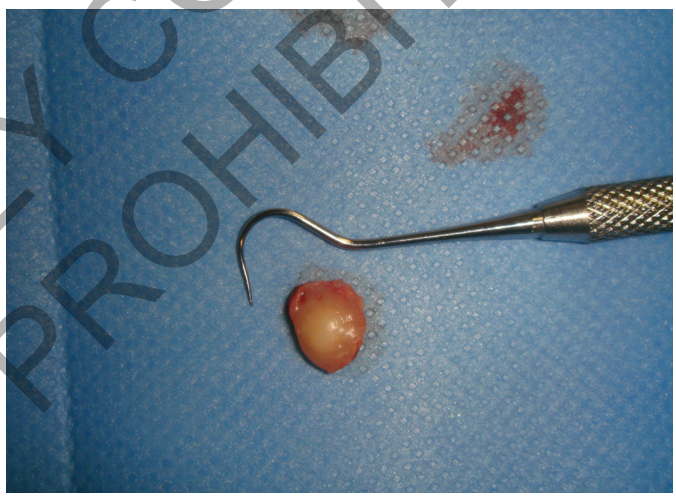

Fig. 3: Surgical sample.

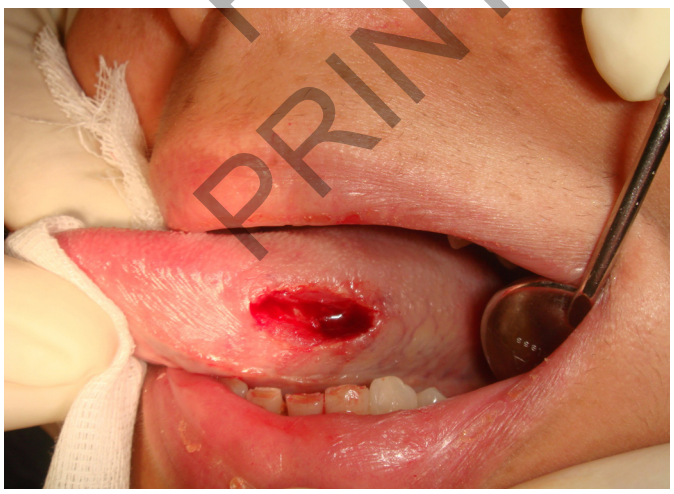

Fig. 2: Surgical excision of the lesion: bleeding in reduced thought deep and lateral margins are wider than the primary lesion.

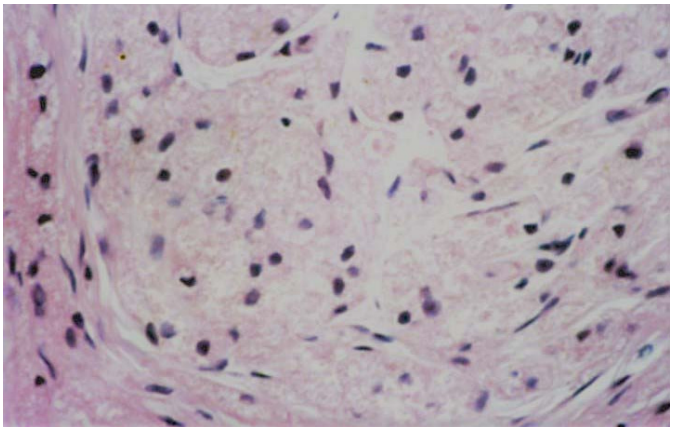

Fig. 4: Histological examination shows large cells whit cytoplasm replaced by fine eosinophylic granules, small nuclei dispersed among bundles of normal striated muscle cells.

mas, schwannomas, neurofibromas or neuromas, and also their malignant variants and even the oral carcinoma when ulceration of the overlying mucosa occurs, the latter remaining un-frequent in benign tumours. Immunohistochemical studies of granular cell tumours suggest a neural or neuroectodermal origin of the granular cells (neuron specific enolase and S-100 protein markers positivity) and may help in doubtful cases. For the described reasons, it is important to perform an accurate excision, to obtain a good sample for the histological examination and to reduce to possibility of recurrence.

Conclusions

The treatment of choice of the GCT is the conservative surgical excision. Hyper-pulsed surgical radiofrequency is an useful electro-medical device for cut and partial coagulation of tissues that happens quickly and without pressure, no thermal injury, tissue charring, or sticking effect due to low working temperatures. The possibility to have partial haemostasis and tissue dissection simultaneously reduces the time of operation. Considerable advantages are also very good and quick recovery of tissues, cut without marginal necrosis, coagulation by endothelial denaturation.

Riassunto

Il tumore a cellule granulari è una neoplasia piuttosto rare del cavo orale. Solitamente si presenta come lesione nodulare, sessile, asintomatica, a lenta crescita, rivestita da mucosa normocolorata a meno che non intervengano fenomeni di ulcerazione dovuta esclusivamente a trauma masticatorio, e con un caratteristico colorito giallastro che guida alla diagnosi differenziale pre-chirurgica. L'escissione deve essere eseguita in toto per ridurre il rischio di recidive dovuta ad incompleta enucleazione, anche mediante sistemi elettromedicali, come per esempio la radiofrequenza chirurgica utilizzata nel caso descritto, che rendono l'atto chirurgico più semplice per riduzione del sanguinamento intra-operatorio non alterando la precisione di escissione ed il campione chirurgico al fine del susseguente esame istologico, che è obbligatorio per la diagnosi finale.

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