Ind J Dermatol Venereol Leprol 1994; 60 : 221-2

GRANULAR CELL TUMOUR PRESENTING AS HARD FLESH COLOURED NODULE IN THE TONGUE

S K Bose, P N Behl

Here we present a rare case of granular cell tumor in the tongue which gave a false impression of a calcified nodule.

Key Words : Granular cell tumour, Calcified nodule

Introduction

Granular cell tumour (GCT) or granular cell myoblastoma is a rare benign tumour of debatable histogenesis. Abrikossof[1] in 1926 reported 5 cases under the name "myoblastic myoma" and hence the credit of the present name GCT goes to him. However, the first case in the tongue was described by Weber[2] in 1854.

This tumour can occur in any tissue or ogan of the human body, but commonly observed in the tongue as well as skin and deeper structures. Both sexes are equally affected during the 3-5th decades of life.[3] Malignant type of GCT which metastasizes have also been reported.[2] Below we present such a rare case in an Indian woman and review the literature.

Case Report

A 36-year-old Muslim woman presented to our Daryaganj clinic with a solitary flesh coloured slightly whitish nodule 0.6 cm in diameter for a period of 6 months. The surface of the tumour was verrucous with mild tenderness experienced on pressure. Due to its colour and hardness, the nodule gave an initial impression of a calcified nodule, either calcified cysticercosis or metastatic tumour clacification. X-ray chest including shoulder and arms, abdomen, revealed no ectopic clacification and/or soft tissue shadows. Serum calcium was normal. Haemogram, liver function tests and routine stool examinations were within normal limits. Tumour was excised with adequate margins and sent for histology.

Microscopically the nonencapsulated tumour mass consisted of irregularly arranged sheets and nests of large polyhedral cells with small centrally located nuclei with rare mitosis. The cytoplasm was granular, PAS positive and diastase resistant.[4] Von-Kossa stain was negative. Groups of tumour cells were surrounded by striated muscle fibres (Fig 1,2). The histological picture was thus compatible with GCT.

Discussion

Granular cell tumour is composed of cells

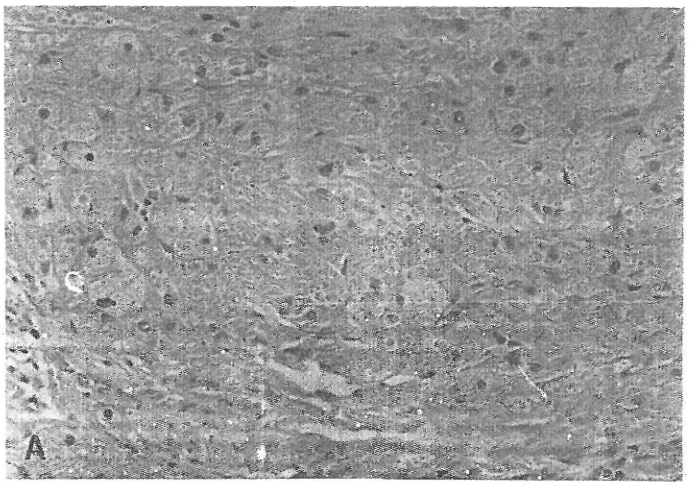

Fig. 1. The tumour cells show pale cytoplasm filled with numerous fine granules. (H&Ex20)

From the Skin Institute and School of Dermatology, N Block, Kailash Colony, New Delhi-48

Address correspondence to : S K Bose, I/1802, Chittaranjan Park, New Delhi-19.

with characteristic granular cytoplasm.[3] Although solitary, as many as 64 tumours have been observed in a single patient.[2] More than 1200 cases of GCT have been reported in world literature.[2] They occur most commonly in the tongue[2,3] (40%), followed by skin and subcutaneous tissue. However, they may occur in any other organs. A familial tendency[2] was noted in 1 case of GCT.

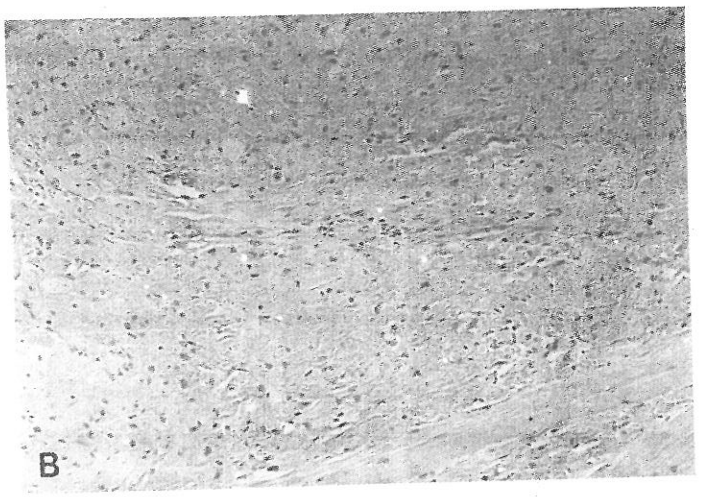

Fig. 2. Striated muscle fibers are seen below rows of tumour cells. (H&Ex10)

In higher magnification the tumour cells appear large and often elongated. Most cells are recognized by a distinct cellular membrane and a pale cytoplasm filled with faintly eosinophilic coarse granules. The nuclei are small, round to oval and centrally located. A few of the cells may posses more than a single nuclei. GCT in the tongue[4] has characteristically PAS positive and diastase resistant membrane and slender, striated muscle fibers surrounding groups of tumour cells.

The true nature of the tumour remains shrouded in controversy. Electron microscopic (EM) studies give evidence for a Schwann cell origin;[2,3] although the presence of mucous lysosomal granules remains unexplained.

By EM, flattened satellite cells surrounding cluster of tumour cells often show a partial basal cell lamina and may represent perineural cells. Immunohistochemical finding show the presence of S-100 protein[5] within the tumour cells. Similarly peripheral nerve myelin proteins[5] such as P2 protein and PO proteins and neuron-specific enolase and vimentin[6] are regularly demonstrated. Demonstration of myelin basic protein[7] in some tumours further support its neural origin.

References

1. Abrikossof A. Über Myome ausgehend vov der quergestreifter willkurlichen Muskulatur. Virchows Arch Pathol Anat 1926; 260 : 215-33.
2. Apisarnthanarax P. Granular cell tumour. An Analysis of 16 cases and review of the literature. J Am Acad Dermatol 1981; 5 : 171-81.
3. Mackie RN. 'Soft tissue tumours'. In : Text Book of Dermatology (Champion RH, Burton JL, Ebling FJG, eds), 5th edn. Oxford: Blackwell Scientific Publications. 1993; 2094-5.
4. Aparicco SR, Lumsden CE. Light and electron microscopic studies on the granular cell myoblastoma of the tongue. J Pathol 1969; 97 : 399-55.
5. Mukai M. Immunohistochemical localization of S-100 protein and peripheral nerve myelin (P2 protein, PO protein) in granular cell tumours. Am J Pathol 1983; 112 : 139-46.
6. Kuhn A, Mahule G, et al. Benigne und maligne Granular zell tumoren. Z Hautkr 1987; 62 : 952-8.
7. Penneys NS, Adachi K, et al. Granular cell tumors of the skin contain myelin basic protein. Arch Pathol 1983; 107 : 302-3.