Letters to the Editor

Granular Cell Traumatic Neuroma of Salivary Gland

To the Editor.—The true nature of granular cell tumor has been a source of controversy since its recognition as an entity by Abrikossoff in 1926. Early suggestions of a myoblastic origin have been discounted, and most investigators currently favor a Schwann cell derivation based on immunohistochemical and electron microscopic findings.1

On the other hand, granular cell changes have been repeatedly reported in sites of previous surgical trauma.2,3 It has been highlighted that in some cases associated with surgery, the tumor shows features of both granular cell tumor and traumatic neuroma. Such lesions recently have been labeled granular cell traumatic neuroma in an article published in the ARCHIVES by Rosso et al,4 who found some examples in mastectomy scars.

We have had the opportunity to observe a similar lesion composed of a mixture of granular cells and hyperplastic nerve bundles haphazardly oriented among fibrous tissue. However, in our case neither previous surgical intervention or clinically evident trauma existed. The tumor was located in a submaxillary gland. This particular anatomic site is notoriously unusual, with only 4 cases of salivary gland involvement reported in the literature to date, all of them in the parotid gland.5,6

A 74-year-old man presented with a 5-year history of pain and slow-growing swelling in the right submaxillary region. A simple radiograph showed a rounded calcified body, approximately 2 cm in diameter, consistent with sialolithiasis.

In the resection specimen, irregular zones of fibrosis and a dilatation of the glandular excretory duct system were grossly evident. On microscopic examination, wide areas of atrophy, ulceration, and squamous metaplasia of the epithelial duct lining were seen, as was a surrounding patchy chronic inflammatory infiltrate with extensive fibrosis. A poorly defined lesion was observed in the vicinity of the dilated duct; the lesion was approximately 1.7 cm in maximum diameter and was composed of large rounded cells with small, centrally placed nuclei and distinctive granular cytoplasm. This lesion was grossly inapparent and was embedded in the large fibrotic periductal areas. The cells were arranged diffusely in a pseudoinfiltrative fashion, without a definite organoid pattern, in intimate admixture with markedly hy-
perplastic and disorganized nerve fascicles and separated by bundles of collagen (Figure, A through C). No mitotic activity was detected.

The cytoplasm contained numerous diastase-resistant, periodic acid-Schiff-positive granules of various sizes. Immunohistochemically, the granules were intensely positive for S100 protein antibody (Figure, D) and also showed weaker expression for vimentin, neuron-specific enolase, α₁-antitrypsin, and CD68 antigen. In keeping with the absence of mitosis, the proliferative index measured by Ki-67 antigen was very low (all antibodies from Dako, Glostrup, Denmark).

The patient was observed for 3 years after surgery without signs of recurrence. We believe that the tumor described in this report and those labeled granular cell traumatic neuroma by Rosso et al are really the same lesion, with the difference that in this patient the persistent tissular injury in the vicinity of lithiasis played the role of a causal, causative, or promoting factor for the development of the tumor, in a similar way, for example, that Morton neuroma is a mechanically induced lesion that affects women who frequently wear shoes that are not designed for the physiology of the foot.

Granular cell tumor should be considered in the differential diagnosis of major salivary gland tumors. Histologically distinctive (although one of the few cases published in this location was reported as acinic cell carcinoma at intraoperative consultation), the differential diagnosis with oncocytic cell tumors or other lesions of the salivary gland that can be composed at least partially by cells of granular cytoplasm, might be difficult, especially on fine-needle aspiration biopsy smears. In this setting, the absence of any organoid pattern (ie, acinar structures or honeycomb arrangement) and perhaps the use of ancillary studies (phosphotungstic hematoxylin or S100 protein immunostain) could be of some utility.

In addition to these considerations, observation of this case of mixed morphology suggests that granular cell tumors could form a continuous spectrum of lesions, initially represented by a reactive/hyperplastic process that subsequently may acquire truly neoplastic potential.

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