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Giant cell reparative granuloma. A report of an isolated lesion arising from the nasal septum

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CASE PRESENTATION

A 32 year old male nurse presented to the ENT department with a few months history of persistent right-sided blood-stained rhinorrhoea, bilateral nasal obstruction, (worse on the right side) anosmia and discomfort in the right eye. Examination showed a friable mass in the right nostril, apparently attached to the nasal septum and extending across to the lateral nasal wall. The post-nasal space was clear. The rest of the ENT examination was normal.

The patient was admitted for examination of the nose under general anaesthetic, which showed a mass in the right nostril attached to the nasal septum and extending across to the lateral wall but not attached to it. Excision biopsy was performed. Bilateral antral wash-outs produced golden yellow fluid from the left antrum and a clear return from the right antrum. Histologically, the lesion consisted of squamous cell epithelium with areas of ulceration. The stroma consisted of spindle and polygonal cells, with unevenly distributed giant cells containing moderate numbers of nuclei, with areas of extensive deposition of haemosiderin and small foci of osteoid tissue (Figure 1). A diagnosis of Giant Cell Reparative Granuloma was suggested only after exclusion of hyperparathyroidism. The serum calcium, phosphate and alkaline phosphatase were normal, thus excluding hyperparathyroidism.

The patient was reviewed periodically and six months later a further swelling developed in the right nostril, which required re-admission for a lateral rhinotomy approach. The mass in the right nasal cavity was attached to the maxillary spur near the floor of the nose. It was excised with surrounding septal cartilage, and the maxillary spur. It measured 1 x 2 cm. The histological picture was similar to the previous biopsy, showing stroma of spindle and polygonal cells, giant cells with moderate number of nuclei, deposits of haemosiderin and foci of osteoid tissue.

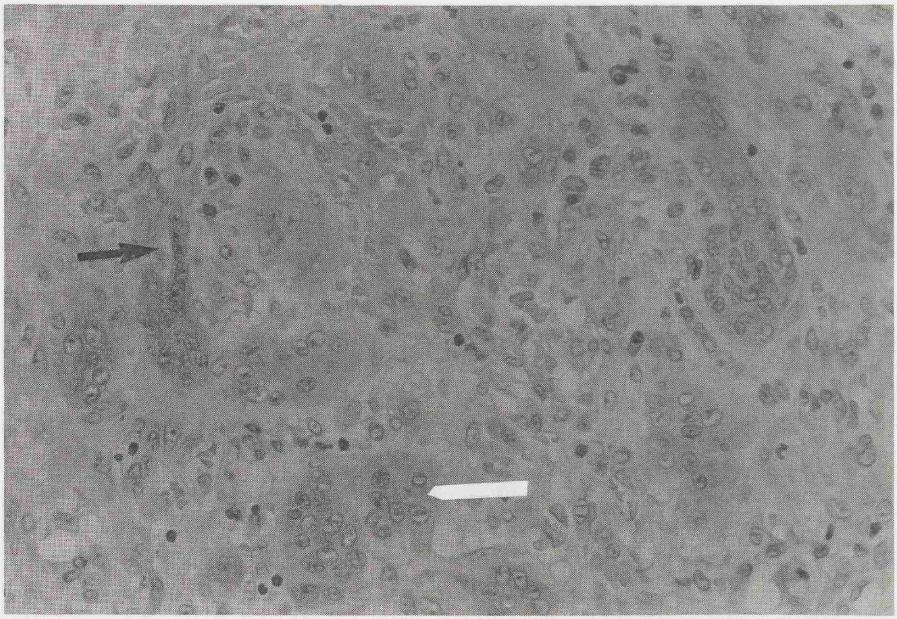

Figure 1. Pathology of the lesion. Granuloma with multinucleate giant cells (black arrow), areas of osteoid tissue (white arrow).

DISCUSSION

In 1953 Jaffe was the first to use the term Giant Cell Reparative Granuloma (GCRG) to describe a lesion mostly affecting the jaw bones, characterised histologically by the presence of sparse multi-nucleated giant cells, unevenly distributed and clumped in areas of haemorrhage. The stroma is composed of spindle cells with haemorrhagic extravasation and some delicate trabeculae of newly formed osteoid tissue or bone. GCRG is a benign non-neoplastic lesion, more common in females than males, with an incidence between 10–25 years of age. It most commonly affects the mandible and maxilla. Other sites including the sphenoid bone (Emley, 1971), ethmoid (Friedberg et al., 1969), temporal bone (Hirschul, 1974) and other extracraniofacial bones have been reported (Larenzo and Dorfman, 1980). The process of granuloma formation is generally thought to be triggered by haemorrhage within the bone.

In many cases a history of trauma in the past can be traced. However, in other cases where there is no history of trauma, it is thought that chronic inflammation can give rise to micro-haemorrhage, which in turn triggers the reactive process (Hirschul, 1974). A case of GCRG of the ethmoid bone concurrent with epidermoid carcinoma of the nasal sinuses has been reported, and it was suggested that the reparative process was triggered by bone destruction caused by the malignant process (Damjanove et al., 1976). Macroscopically, GCRG can be

divided into peripheral and central lesions. The peripheral lesion is usually a sessile spongy reddish-blue mass arising from gingival soft tissue. It usually presents with bleeding from the gingival mucosa of a displaced tooth. Local excision is curative (Andersen et al., 1973). Central GCRG presents as a bony swelling varying in consistency and affecting the mandible or maxilla. It causes dull pain and increased mobility of teeth in the affected area. Rapid increase in size has been reported in pregnancy (Fechner et al., 1984).

Radiologically it appears as a radiolucent area causing expansion of cortical bone with thinning and displacement. The histological features of peripheral and central lesions are identical. Central GCRG is treated by enucleation of the lesion and curettage of surrounding bone. In about 10–15% of cases the lesion may recur and repeated excision and curettage of bone should suffice. It has been suggested that radiation therapy will result in rapid response and definite cure of the lesion, but Austin et al. (1959) reported a case of GCRG in which the patient was treated with radiotherapy and nine years later developed osteogenic sarcoma at the same site. Two lesions should be differentiated from GCRG on histological grounds. The brown tumour of hyperparathyroidism (so called because of blood exudation and haemosiderin deposition giving it a brownish colour) has a similar histological picture, but blood analysis confirms hyperparathyroidism with elevated levels of calcium and serum alkaline phosphatase and a reduced level of inorganic phosphate. The blood biochemistry in GCRG is essentially normal. The second differential diagnosis is giant cell tumour of bone, which usually affects patients in 3rd–4th decade. It involves the epiphysis of long bones and is rarely found in the skull.

Histologically giant cell tumour of bone shows multinucleated giant cells uniformly distributed, and dominating the entire field; haemosiderin deposits are rare, and the tumour does not produce osteoid or new bone (Jaffe, 1953; Hirschul et al., 1974).

CONCLUSION

A case of Giant Cell Reparative Granuloma probably of peripheral type is reported, affecting the bony nasal septum without apparent involvement of the paranasal sinus. All reports in the English Literature are of cases of GCRG involving paranasal sinuses or other bones.

The lesion is benign and cure is usually achieved by local excision.

We believe that this is the first reported case of solitary GCRG arising from the bony nasal septum.

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