EPIBULBAR OSTEOMA*

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In reporting six cases of epibulbar osteoma from the file in the Registry of Ophthalmic Pathology, Armed Forces Institute of Pathology, Boniuk and Zimmerman (1962) also reviewed twenty other cases of this tumour recorded in the literature up to that time. In these 26 cases the tumour was located as follows:

- 18—Upper temporal region
- 6—Simply described as temporal
- 2—Not mentioned

All these tumours were situated 5 to 10 mm. from the limbus and consisted of mature compact bone. There has been a marked variation in the mobility of these tumours in the reported cases. The majority have been described as freely movable with no evidence of attachment to either sclera or conjunctiva, some were found adherent to the sclera, including Case 3 of Boniuk and Zimmerman (1962). The extent and mode of attachment is not described, and moreover, in their case, there was a definite history of injury at the age of 10 years and the tumour was first noticed at the age of 21 years when the eye was red and inflamed.

The purpose of this paper is to report another case in which the tumour was firmly adherent to the sclera.

Case Report

A girl aged 4 years was brought to the clinic because her parents had noticed a swelling in the upper temporal quadrant of the right globe 2 months previously and thought it was increasing in size. There was no history of injury and the eye was quiet. The child had never complained of any pain or discomfort. The lesion was situated about 10 mm. from the limbus in the upper temporal quadrant.

Diagnosis.—Conjunctival cyst.

Operation (13 July, 1963).—The conjunctiva was incised along the lower border of the tumour. With careful dissection the tumour was freed from the conjunctiva to which it was slightly adherent. The under surface of the tumour was freely movable over the sclera. The tumour was rectangular in shape measuring $8 \times 6.5 \times 1.5$ mm. Its lower border as well as the medial and lateral borders were well defined and separated easily from the episcleral tissues. The whole of the upper border was firmly adherent to the sclera (Fig. 1).

FIG. 1.—Attached upper border seen as tumour is lifted by holding its lower border.

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The tumour had a concave under surface and a convex outer surface. It was hard in consistency, and at this stage its true nature was suspected. On attempting to cut the adherent border with strabismus scissors, the scissors slipped over it without making a cut. The tumour was then shaved off with a knife level with the sclera, and there was no bleeding whatsoever. Pure carbolic acid was applied to the raw sclera and the conjunctival incision was closed with a running suture. The healing was uneventful.

Histopathological Examination.—The tumour was composed of mature compact bone (Fig. 2).

FIG. 2.—Histological section showing mature compact bone.

Discussion

The origin of this tumour remains obscure. Ballantyne (1940) thought it to be a lesion of conjunctiva and therefore called it “epibulbar osteoma.” Boniuk and Zimmerman (1962) preferred the adjective “episcleral” to “epibulbar” because they considered that the lesion always lay in the episcleral tissues.

The tumour in this case may, on the same analogy, be called a “scleral” osteoma, as the upper border was firmly attached to the sclera throughout its length. It is therefore surmised that all these tumours arise from the sclera either at birth or soon after and gradually grow downwards compressed between the globe and the upper lid. If the base is very narrow it is likely that its origin from the sclera may not be appreciated during its dissection from the surrounding structures and the tumour may thus be considered freely mobile.

The shape and size of the tumour is determined by its situation under the upper lid and the extent of its attachment to the sclera. The movements of the upper lid over the globe not only press the tumour against the globe resulting in a concave under surface and a convex outer surface, but also perhaps help in its downward growth. If the attachment is extensive, as in the present case, the tumour will take the form of a disc or a rectangle. On the other hand, if the attachment is narrow, the tumour will be elongated and may even look like an incisor tooth, as in the cases of von Graefe (1863) Hartridge (1895) and Case 6 of Boniuk and Zimmerman.

It is therefore suggested that in future, all these tumours including the seemingly freely movable ones be carefully dissected and their margins defined from the surrounding tissues. The upper border or end should then be examined minutely for any evidence of its attachment to the sclera before it can be declared freely movable.

Summary

(1) A case of epibulbar osteoma is described in a girl aged 4 years in an otherwise normal eye. There was no history of injury or previous disease.

(2) The tumour was a rectangular flap, the whole upper border of which was firmly attached to the sclera.

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