CARCINOMA OF THE MEIBOMIAN GLANDS*†

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CARCINOMA of the meibomian glands is an uncommon condition which usually presents as a defined chalazion-like lesion of the eyelid. Scheie, Yanoff, and Frayer (1964) reported a case showing diffuse thickening of both upper and lower eyelids and reviewed the 52 cases of meibomian gland carcinoma so far reported in the English literature. Subramamiam, Sreedharan, and Kutty (1965) reviewed the world literature of about 140 cases and reported a further case from North India. The following case is reported because of its exceptional presentation and unusual histological features.

Case Report

A 35-year-old male Negro was referred to the University College Hospital of the West Indies from the Caribbean island of St. Kitts where he worked as a sugar plantation estate manager. He had noticed a small lump growing within the left upper eyelid 20 months earlier, and this had increased in size only gradually until the last 6 months when a more rapid increase occurred. He had no discomfort and had not obtained medical advice previously owing to pressure of work.

Examination.—A large mass, measuring 6 by 4 cm. arose from within the left upper lid, dragging down the tissues so that the tumour was almost pedunculated (Figs 1 and 2). The consistency was firm and the surface nodular. The line of the lashes extended around the inferior periphery of the mass. The skin was freely mobile over the outer surface while the conjunctiva appeared adherent in most areas below. Despite the size of the mass there was no ulceration of the skin or the conjunctiva.

FIG. 1.—Front view of a case of carcinoma of the meibomian glands.

FIG. 2.—Left lateral view of same case as Fig. 1.

Above, the tumour was well defined and the examining finger and thumb could be approximated proximal to the edge, with what appeared to be only skin and conjunctiva between.

The globe appeared normal on external, slit-lamp, and ophthalmoscopic examination.

The right eye and adnexa showed no abnormality.

Two very small firm glands were palpable in the upper part of the deep cervical chain. X rays showed no areas of calcification and no bone involvement.

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It was at first considered that this was a benign neoplasm, possibly a neurofibroma. A biopsy was performed through the skin surface, and the skin appeared quite separate and the mass encapsulated. Histological examination, however, showed an unusual picture of a probable infiltrating carcinoma of squamous type.

In view of the discrepancy between the clinical and histological appearances and the defined nature of the mass, a local excision with a generous margin of clinically uninvolved tissue was decided upon.

Operation.—The peduncle of the mass was incised through what appeared to be normal skin and conjunctiva and the tumour was removed. A modified Hughes type mobilization of the lower tarsal plate and conjunctiva was performed with a suture to the defect above. The remaining skin of the upper lid was mobilized to the orbital margin and sutured to the lower lid without tension. The upper punctum and canaliculus were preserved.

Pathology of Tumour and Left Upper Eyelid

MACROSCOPY.—The specimen consisted of an eyelid greatly distorted by an oval tumour 5.5 cm. in diameter and 3.5 cm. thick. The skin was not ulcerated but there were multiple epidermal nodules. The skin appeared free from neoplastic infiltration. The conjunctival surface was similar with more marked nodularity, and there appeared to be conjunctival infiltration but no ulceration.

On section the tumour was a uniform greyish yellow, somewhat cheesy in nature. At the margin of resection there appeared to be a thin capsule without other soft tissues. Four sections were prepared.

HISTOLOGY.—All the sections showed virtually the same pattern. There was diffuse infiltration of fibrous tissue by cord-like strands of malignant tumour tissue composed of dark-staining regular cubical or oval cells. Bizarre nuclei and mitoses were frequent. The centres of many of these cords showed a colliquative necrosis but there was no keratinization or pearl formation. In many places the tumour had retracted from the surrounding tissues in a characteristic manner (Fig. 3).

FIG. 3.—Meibomian gland carcinoma, showing cords of malignant cells with central colliquative necrosis and typical retraction of cellular elements from stroma. Haematoxylin and eosin. $\times 75$.

In the connective tissue stroma there was a marked giant cell reaction, chiefly in areas showing foam cells (Fig. 4). The tumour showed adenocarcinomatous, squamous, and basal cell carcinomatous cellular characteristics. The cells stained readily with fat stains. The tumour was well encapsulated overall and no connexion with the skin was seen. It was considered that this was a case of adenocarcinoma of the meibomian glands.

FIG. 4.—Higher-power view of meibomian gland carcinoma, showing giant cells in stroma surrounding cords of dark-staining malignant cells. $\times 375$.

Follow-up.—6 months later there was no evidence of local lymphadenopathy and no evidence of distant metastases.

Discussion

This case was typical of meibomian gland carcinoma in that it occurred in the upper lid, commencing as a chalazion-like lesion, and exhibited both squamous and basal cell characteristics, but it also showed the following unusual features:

(1) It was first seen as an advanced untreated tumour, very much larger than any so far reported. A most striking point was the lack of ulceration of the skin and mucous membrane. The non-ulcerating characteristic of meibomian gland carcinoma was emphasized by Willis (1953) and Scheie and others (1964). This is in marked contrast to the usual behaviour of a squamous or basal cell carcinoma, which it mimics histologically but not clinically, as has been pointed out by Warvi and Gates (1943).

(2) The tumour was apparently benign. The remarkably well-defined edge with capsule formation, the lack of skin and conjunctival involvement, and the lack of local and distant metastases after a 2-year history and 6-month follow-up period, contrast sharply with the malignant cellular appearance, and with the experience of some authors. For example, Scheie and others (1964) observed that many meibomian gland carcinomata metastasize and are ultimately fatal; Hogan and Zimmerman

(1962) stated that metastases might occur; Duke-Elder (1952) wrote that rapid malignancy might follow incomplete surgery; and Magnus (1947) reported a fatal case with liver metastases. It is possible that the tumour is not always as malignant as has been thought; Subramamiam and others (1965) said that metastases occurred late, and Willis (1953) considered them to be infrequent. The difficulty in classifying this carcinoma is mentioned by several authorities, particularly by Straatsma (1956) who attempted a classification according to cell type. Warvi and Gates (1943) pointed out that it might be mistaken for a basal or squamous cell carcinoma, and Hogan and Zimmerman (1962) said that it might imitate a squamous cell carcinoma.

(3) Pagetoid change of the overlying epithelium is a characteristic feature, though only mentioned twice in the literature (by Hogan and Zimmerman, 1962, and Scheie and others, 1964). This tumour showed a pagetoid cell nest of the conjunctival epithelium (Fig. 5).

FIG. 5.—Higher-power view of meibomian gland carcinoma, showing a pagetoid cell nest of the conjunctival epithelium. $\times 300$.

Hogan and Zimmerman (1962) and Subramamiam and others (1965) considered the ready uptake of fat stains, as in the tumour here described, to be typical.

(4) There was marked giant cell infiltration of the stroma, presumably from damage to glandular tissue of the eyelid and an exaggeration of the inflammatory cell invasion in certain cases as described by Reese (1951).

(5) Retraction of the cellular elements from the stroma was another characteristic feature in this particular case. Although this has not previously been described in the literature it may be observed in the photograph illustrating at least one other case—that of Hogan and Zimmerman (1962).

Summary

A case is described of unusually advanced meibomian gland carcinoma showing features typical of that condition, and various unusual characteristics.

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