MEIBOMIAN CARCINOMA*

BY

K. S. SUBRAMANIAM, T. SREEDHARAN, AND M. KANNAN KUTTY

From the Department of Ophthalmology and Department of Pathology, Calicut Medical College

NEOPLASMS of meibomian glands are rare. Although they are modified sebaceous glands of the eyelids, malignant change occurs in them remarkably rarely when compared with those in other parts of the body. Welch and Duke (1958) found that meibomian carcinomas comprised only 0.2 per cent. of all lid tumours. The total of meibomian carcinomas listed in the world literature, according to Rice and Lindeke (1950), was only 97. With the wider recognition given to this entity after this date the number has steadily risen, and the literature now shows that about 140 cases have already been documented.

Although the condition was recognized a little earlier, the first authentic report on this neoplasm was made by Allaire (1891). Several other cases were later reported in Western literature (Snellen, 1896; Lazarescu, Lazarescu, and Ionescu, 1930; Hagedoorn, 1934; Kennedy and King, 1954; and Hartz, 1955). From North India, Das (1962) recorded 4 cases of adenocarcinoma of the meibomian glands. No case previous to the present one has, to our knowledge, been reported from this part of the country.

There seems little doubt that in the meibomian gland the malignant tumour (carcinoma) occurs with greater frequency than the benign tumour (adenoma). Scheerer (1914) found that out of 31 cases analysed by him, 14 were adenomas and 17 were carcinomas. Cavara (1920) noticed the proportion 15:21 and Riva (1922) 24:16. In his series of 21 cases of meibomian tumours, Straatsma (1956) found that only 3 were adenomas while 17 were carcinomas.

Incidence

Malignant meibomian-gland tumour occurs in the older age group, usually after the age of 40, when malignant growths begin to become more common elsewhere in the body. Most of the cases occur between 40 and 70 years, although instances are known where it has occurred as late as 80. In children it is generally believed that this tumour is extremely rare. Nevertheless, Lazarescu and others (1930) have recorded a case in an 11-year-old patient.

Pathology

Meibomian-gland carcinomas are slow-growing tumours seen in the tarsal part of the eyelids. The upper eyelid is more often affected than the lower. In early stages they appear as small yellowish-white nodular masses resembling chalazions. Willis (1953) has observed that these tumours grow slowly, ulceration is usually long delayed, and metastasis to regional lymph nodes is infrequent.

* Received for publication March 4, 1964.

Showing a group of carcinomatous cells with a few large clear cells in places. $\times 200$.

The salient histological features of these tumours have been concisely recorded by Hogan and Zimmerman (1962). Most frequently they present an acinar pattern and resemble the normal structure of the gland, but the cells may be arranged in sheets, solid cords, or clusters. At least in some part of the tumour large cells with abundant vacuolated cytoplasm are seen. Frozen sections show large amounts of lipid in vacuolated cells and in necrotic central areas of certain lobules. Mitotic features are conspicuous. In poorly differentiated areas these gland tumours imitate a squamous carcinoma. Straatsma (1956) has given clear-cut points of histological distinction between carcinoma, adenoma, hamartoma, and simple hyperplasia as seen in meibomian glands. In our case,

the histological appearance was characteristic of a carcinoma of the meibomian gland suggesting an adenomatous pattern (*see* Figure). The rarity of this condition, the ease with which it can be missed clinically, and the problems of its treatment perhaps justify our reporting this case.

Case Report

A Muslim trader aged 64 years was first referred to the ophthalmic department of the Medical College Hospital, Calicut, in November, 1961, for investigation of a lump on his left upper eyelid. He was already undergoing treatment in the same hospital for pulmonary tuberculosis.

According to the patient, the mass on the eyelid started as a small pimple a year previously and was gradually increasing in size. Periodically, it swelled up suddenly and became painful and red. Otherwise his only complaint was the disfigurement and drooping of the eyelid.

Examination showed a weak and emaciated man who was obviously ill but not in pain or distress. The left upper lid showed partial mechanical ptosis. In its lateral half there was a well-circumscribed, firm nodule, like a small marble, 1.5 cm. in diameter, extending to the lid margin, with the skin tensely stretched over it, but not adherent to it. It was difficult to evert the lid to see the underlying conjunctiva, but when this was done, the conjunctiva showed slight hyperaemia. There was no ulceration. The pre-auricular or cervical lymph glands were not enlarged. The eyes themselves were healthy except for early lens opacities. Vision in the right eye was 6/9; in the left eye 6/18. The ocular fundi were normal. There was no proptosis. A clinical diagnosis of chalazion was made and the lump was incised and curetted. The patient was advised to use Sulphacetamide eye ointment and report after a week.

Unfortunately he had a sudden exacerbation of his chest condition and did not report until May, 1962, when the lump had become larger and there was an indurated ulcer on the conjunctival aspect. The regional lymph glands were not enlarged. A malignant condition was suspected and the lateral half of the eyelid was completely excised and the tissue sent for histopathological examination. Plastic repair was deferred for a second-stage operation because of the patient's poor general condition.

The lid wound healed well. There was some lagophthalmos on the lateral side and trichiasis at the cut end of the lid margin. The latter, together with corneal exposure, precipitated an exposure keratitis, which rapidly led to hypopyon corneal ulceration, perforation, and an unsightly anterior staphyloma. The eye was therefore enucleated in October, 1962. Meanwhile, the biopsy report revealed the condition to be a meibomian carcinoma which had been incompletely excised. The patient was therefore given a total of 5,000 r deep X-ray therapy. He was last seen in February, 1964. There was a clean left socket and the remainder of the left upper lid was healthy. There was some degree of contraction and obliteration of the upper lateral fornix, which prevented the retention of a prosthesis. There was no clinical evidence of any metastasis.

His general condition was still poor, and quite naturally he was more anxious about the chest condition than about the empty socket or the lid deformity.

Comment

Malignant meibomian tumours may be composed of pavement cells arising from a duct, or may present a basal-cell configuration. In this connexion Warvi and Gates (1943) have pointed out that only a small area of a carcinoma may show a typically sebaceous structure and that the tumour may be mistaken for an ordinary squamous or basal-cell growth. Our case presented a more or less adenomatous pattern, with occasional epidermoid characteristics in places.

Metastases occur late in meibomian carcinomas. In our case no enlargement of regional cervical lymph glands was found, although the initial excision was inadequate. Willis (1953) referred to the relatively slow growth of these tumours, as well as to their infrequent metastasis in lymph nodes. Hagedoorn (1934) noted an interval of four years between resection of a meibomian carcinoma and excision of a regional lymph node containing a metastatic tumour. When metastatic lesions do finally occur, Spaeth (1951) opines that they may eventually involve the lip, nose, and malar bone. Distant organs may at times, though rarely, also be involved. Magnus (1947) has described an adenocarcinoma of the meibomian gland with secondaries in the liver.

Leeson (1963), in an electron microscopy study of the meibomian glands of the rat, found that they had a similar appearance to sebaceous glands. He suggested a possible mechanism of lipid formation in them, from ribose nucleoprotein granules and Golgi membranes, and suggests that R.N.P. granules are associated with the capacity of immature basal cells for cell differentiation and cell division.

In conclusion, it may be said that our case underlines the importance of suspecting a malignant tumour when a chalazion occurs, or recurs after removal in patients over the age of 40 years.

REFERENCES

- ALLAIRE, G. (1891). Thèse de Paris. *Quoted by* Duke-Elder (1952).
 CAVARA (1920). *Quoted by* Duke-Elder (1952).
 DAS, S. P. (1962). *J. All-India ophthal. Soc.*, **10**, 36.
 DUKE-ELDER, W. S. (1952). "Text-book of Ophthalmology", vol. 5, p. 5065. Kimpton, London.
 HAGEDOORN, A. (1934). *Arch. Ophthal.*, **12**, 850.
 HARTZ, P. H. (1955). *Amer. J. clin. Path.*, **25**, 636.
 HOGAN, M. J., and ZIMMERMAN, L. E. (1962). "Ophthalmic Pathology", 2nd ed., p. 214. Saunders, Philadelphia.
 KENNEDY, R. J., and KING, R. W. (1954). *Amer. J. Ophthal.*, **37**, 259.
 LAZARESCU, D., LAZARESCU, E., and IONESCU, E. (1930). *Brit. J. Ophthal.*, **14**, 588.
 LEESON, T. S. (1963). *Ibid.*, **47**, 223.
 MAGNUS, J. A. (1947). *Trans. ophthal. Soc. U.K.*, **67**, 429.
 RICE, M. L., and LINDEKE, H. I. (1950). *Amer. J. Ophthal.*, **33**, 1434.
 RIVA, G. (1922). *Arch. Ottal.*, **29**, 261. *Quoted by* Duke-Elder (1952).
 SCHEERER, R. (1914). *Klin. Mbl. Augenheilk.*, **52**, 86.
 SNELLEN, H. (1896). *Trans. ophthal. Soc.*, **16**, 1.
 SPAETH, E. B. (1951). *A.M.A. Arch. Ophthal.*, **46**, 421.
 STRAATSMAN, R. B. (1956). *Ibid.*, **56**, 71.
 WARVI, W. H., and GATES, O. (1943). *Amer. J. Path.*, **19**, 765.
 WELCH, R. B., and DUKE, J. R. (1958). *Amer. J. Ophthal.*, **45**, 415.
 WILLIS, R. A. (1953). "Pathology of Tumours", 2nd ed. Butterworth, London.