CORNEAL FIBROMA (?)

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THE growth to which we have given the name of Fibroma occurred in the cornea of a young man, aged twenty, admitted into St. Mark's Ophthalmic Hospital, January 31st, 1888. He had suffered from granular ophthalmia for many years, and had been in St. Mark's Hospital in March, 1886. On that occasion, a small yellowish white growth was observed in his left cornea, and this growth now presented exactly the same aspect in size, colour, and position, that it did in 1886. On both his visits to hospital he sought advice and treatment for the results of granular ophthalmia, trichiasis, entropium, pannus, confined to the right eye.

The left eye, too, had suffered to a considerable extent from the ophthalmia. The conjunctival sac was contracted, the inner surfaces of the lids scarred, and the cornea exhibited at its periphery a slight abortive pannus, which had been arrested by treatment, and had never spread further than 1 or 2 mm. from the sclero-corneal margin. The tumour, if we may so term it, occupied the outer upper quadrant of the cornea, was oval in shape, the long axis 6 mm., the short 4 mm., and lay with its long axis perpendicular to the corneal diameter which bisected it (Fig. 1). Its colour was yellowish white, rather more yellow than white, to a great degree resembling the colour of the meibomian glands on the inner surface of the eyelids as seen through the conjunctiva. Small blood-vessels could be seen ramifying over the growth, spreading from the sclero-corneal margin where the latter just came into contact with the nearest portion of the periphery of the tumour. This growth was sharply marked off from the surrounding corneal tissue, its surface was not raised above that of the rest of the

cornea, and the epithelium passed over its borders without a break or any alteration of level whatsoever. It appeared to occupy the whole thickness of the cornea. There were in other portions of the cornea a few faint interstitial nebulæ such as are frequently seen in old cases of keratitis, but in other respects the eye was anatomically normal—viz., tension, depth of anterior chamber, size and activity of pupil, and freedom of iris from all adhesions to cornea or lens.

The unusual appearance of this spot in the cornea excited considerable speculation as to what its precise nature might be. It differed in many respects from any form of cicatricial opacity that has been seen in the corneal tissue, its position being deeper, its shape more globular, and its colour yellower, while its vascularity was too well developed for a cicatrix of some years' standing.

Opinion rather tended to assume that the opacity was of a fatty nature, its colour being strongly suggestive of fat.

The patient was really anxious to have the deformity removed, as he believed that it was increasing—a belief which, however, was not justified by the observed facts, and although he was informed that complete removal was impossible, he willingly consented to have as much of it taken off as could be safely accomplished. As the growth appeared to extend through the whole thickness of the cornea, it was manifest that it could not all be excised without serious damage to the eyeball.

Accordingly, a piece of the growth 4 mm. $\times$ 3 mm. was excised under cocaine anæsthesia. There was very considerable hæmorrhage from every portion of the incision, which extended at least half-way through the thickness of the cornea, and probably deeper. No transparent cornea was detected even on the floor of the wound, although subsequent microscopical examination showed that, in places at all events, true cornea had been exposed.

The little ulcer which was left after the removal of this portion of the opacity, healed up in the course of some days, blood-vessels developing with great rapidity all round its borders, and its appearance during the process of repair being more like that of a scleral than a corneal wound.

The portion removed was hardened in Muller's fluid and sections were made from it in a direction at right angles to the surface of the cornea (Fig. 2). From them it was evident that the conjunctiva cornea (*a*) was unaltered, but immediately below this the abnormal tissue (*b*) was to be seen apparently supplanting the fibres of the cornea proper. The portion removed was not equal in thickness to the average cornea, but sufficient tissue had been taken to show the healthy epithelium above, and some true cornea (*c*) below the suspected new growth, the interval between being about 0·2 mm. to 0·4 mm.

The "new growth" was mainly formed of connective tissue, with a large number of blood-vessels, and numerous patches of nuclei; in some places so numerous as to suggest sarcoma, but in others very few. The appended drawing (Fig. 2) shows an average section.

That there was no actual thickening of the cornea in this locality was evident from the fact observed, that its outer curvature was unaltered, it being extremely improbable that the cornea could be bulged inwards by any new growth without its external surface exhibiting a corresponding elevation, so that the condition present in this case is rather to be regarded as a supplanting of the corneal tissue proper by another variety of fibrous tissue, than as a new growth of fibrous tissue developing in this situation.

What the precise pathology of this curious affection may be is not very easy to determine.

Microscopically, the tissue is very similar in structure to a cicatrix, such as might have resulted from an old ulcer, or possibly an interstitial infiltration which became subsequently organised. An ulcer of such a size, and in such a position, could hardly have occurred without perforation, and consequent synechia anterior, which was not present; and the scar left by such an ulcer would have been somewhat pyramidal in shape, the base of the pyramid corresponding to the external surface of the cornea. Now the little tumour here was apparently globular in shape—more accurately, it was egg-shaped, the anterior and posterior surfaces being somewhat flattened as they came in contact with the external and

internal surfaces of the cornea. Finally, it is not usual for corneal scars to keep up the rich capillary vascularity that this fibroma possessed, even when synechia anterior exists.

It is indeed possible to explain the appearances by the supposition of an unabsorbed and organised infiltration of the cornea in this position, and if we could be certain that the cornea had at any period of the boy's life been wholly transparent, we might adopt this theory; but when he came first to hospital he did not seem to be aware of the existence of the spot on his eye, and it was only on his second visit, two years later, that he stated that the spot was growing bigger—a statement which could not be relied on when the notes taken on his first visit were compared with his then condition. It is, therefore, not impossible that the corneal opacity may have been congenital, anterior to the ophthalmia, the results of which induced him to seek medical advice, and if we accept this possibility there cannot be any improbability in a theory which merely assumes a congenital supplanting of one variety of connective tissue by another.

EXPLANATION OF PLATE.

Fig. 1.—Corneal Fibroma (?) Natural Size.

Fig. 2.—Section of same $\times 100$.

a. Conjunctiva.

b. Abnormal Fibrous Tissue.

c. True Corneal Tissue.

Fig. 1.

Fig. 2.

M^r J.B. Story and D^r J.A. Scott on Corneal Fibroma.

J.A.S., del.

Danielsson & Co, lith.