CASE NOTES

KERATITIS LINEARIS MIGRANS*

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WITHIN the group of deep forms of keratitis, Duke-Elder (1938) includes keratitis linearis migrans, a condition described by Fuchs (1926) in which a line of opacity in the deep layers of the stroma of the cornea, associated with keratic precipitates, travels from side to side across the cornea. Vejdovsky (1952) described a line-like clouding in a transparent cornea which gradually moved upwards until it reached the upper border of the cornea. Both Fuchs and Vejdovsky attributed the cause to syphilis. Engelbrecht (1927) also described a deep, and Collomb (1923) a superficial, migratory line in non-syphilitic subjects.

In the case under review, not only were the side-to-side migrations of the opacity (Fuchs) and the upward movement on the cornea (Vejdovsky) present, but also a migration backwards into the corneal stroma from Bowman's membrane through Descemet's membrane to the endothelial surface.

Case Report

A young Italian woman, aged 22 years, came to hospital complaining of photophobia in the left eye of 3 weeks' duration. Attacks of redness had occurred in both eyes in early childhood.

Examination

RIGHT EYE: Visual acuity 6/9. The eye was white. The slit lamp showed ghost vessels of previous interstitial keratitis. The media and fundus showed no abnormality.

LEFT EYE: Visual acuity 6/9. There was very slight conjunctival injection, but no circum-corneal flush. A greyish, elongated area was present on the cornea in the line from 3 to 7 o'clock. The slit lamp showed ghost vessels as in the right eye and a diffuse elongated corneal infiltration situated on the posterior surface of Bowman's membrane. A line of increased density extended from the extremities at each end. The deep layers of the cornea were clear. There were no keratic precipitates and no cells in the anterior chamber (Fig. 1, opposite). The media and fundus showed no abnormality.

14 days later the photophobia was less. The corneal opacity had elongated towards the limbus at both ends and had also moved backwards so that there was now a clear space between the opacity and Bowman's membrane. Further, the opacity had become divided into a diffuse anterior part and a denser posterior part (Fig. 2). There were no keratic precipitates on the endothelial surface of the cornea and no cells were found in the anterior chamber.

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FIG. 1.—Diffuse infiltration in cornea with increased density at each end, situated behind Bowman's membrane.

FIG. 2.—Corneal opacity has elongated towards limbus at both ends and has moved backwards. It is divided into two parts. (Note clear space between opacity and Bowman's membrane).

This backward migration continued until the diffuse anterior part was situated on the anterior surface and the dense posterior part was on the posterior surface of Descemet's membrane and appeared as a line of large keratic precipitates. The general line of opacity had lengthened and was arranged in cattle-truck formation, and had moved upwards in the cornea (Fig. 3). There were a few cells in the anterior chamber.

FIG. 3.—More elongation. Cattle-truck formation. Opacity has moved further back in stroma. Diffuse part of opacity on anterior surface and dense part on posterior surface of Descemet's membrane.

Within a few days there was further extension of the line almost to the limbus at each end. The corneal stroma was quite clear and the opacity was situated on the endothelial surface of the cornea and had moved upwards (Fig. 4).

During the next few weeks the line extended in length and became irregular and at the same time continued migrating upwards on the cornea. The stroma was clear (Fig. 5).

FIG. 4.—Corneal stroma clear. Opacity situated on posterior surface of Descemet's membrane.

FIG. 5.—Line of keratitis lengthened and irregular and has also moved upwards. Corneal stroma clear.

This upward progression continued for some weeks, the line becoming straighter and shorter (Figs 6 and 7, opposite), until it reached the upper border of the cornea near the angle of the anterior chamber between 10 and 12 o'clock, where it took on the curve of the corneal circumference (Fig. 8, opposite).

The opacity remained in this position for some weeks, clearing slowly. There were some fine dry keratic precipitates scattered over the posterior surface of the cornea. The keratitis finally cleared up about 10 months after onset.

Serological Examination.—Wassermann reaction + +; Kahn test + + +; Price's precipitation reaction + (diluted 1/4); treponemal immobilization test +.

Summary

A case of keratitis linearis migrans has been described. In a white eye with mild anterior uveitis the linear keratitis migrated in three directions:

- (1) Towards the limbus at each end of the opacity;
- (2) Backwards through the stroma from Bowman's membrane to the endothelial surface of the cornea;
- (3) Upwards towards the upper border of the cornea.

It was not possible to obtain satisfactory photographs and the diagrams have been drawn to elucidate the various stages in the course of the condition.

FIG. 6.—Line of keratitis shorter and further up in cornea.

FIG. 7.—Line of keratitis further up in cornea and taking limbal curve.

FIG. 8.—Line of keratitis has taken on curve of corneal circumference.

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