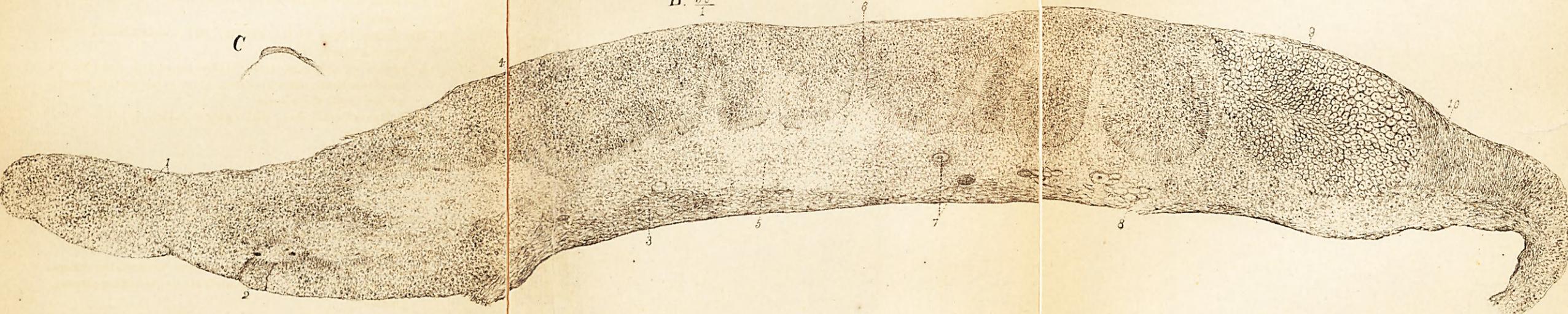
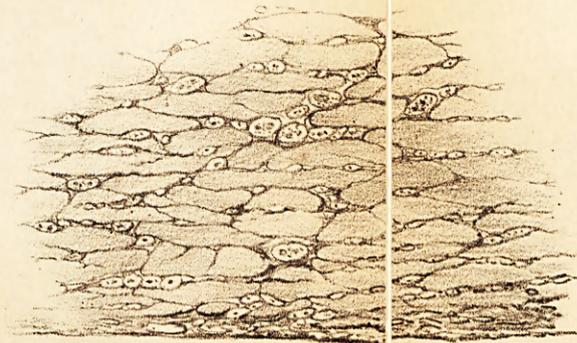
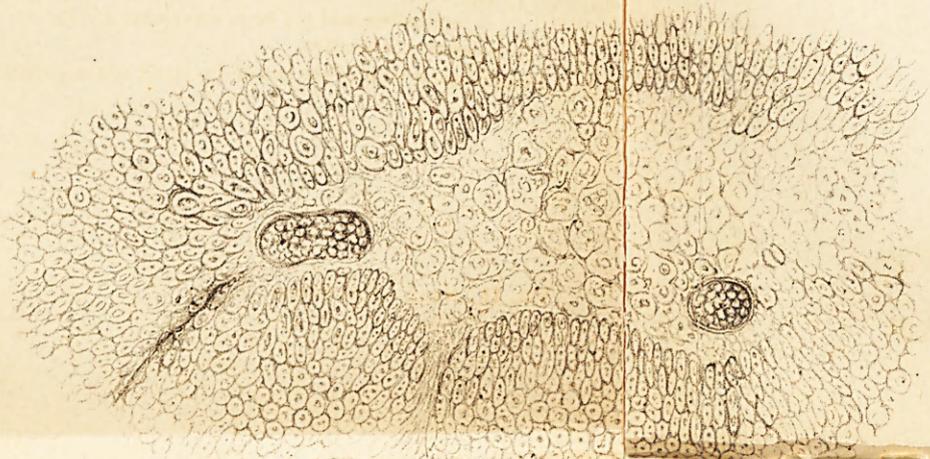


B. $\frac{50}{1}$

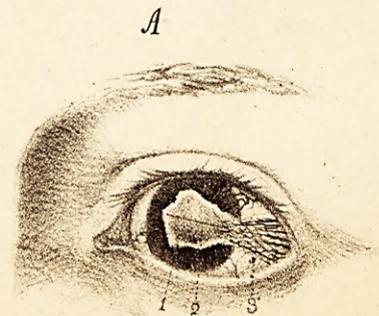
C



2' $\frac{500}{1}$



3' $\frac{500}{1}$



DESCRIPTION OF PLATE.

(A) Front view of the eye, showing the position and relations of the growth.

- 1 Healthy cornea.
- 2 Tumour with the line of section indicated.
- 3 Vascular band on sclerotic.

(B) Vertical section of tumour.

- 1 Opaque margin of thickened and altered epithelium.
- 1' A portion of the same highly magnified.
- 2 The limit of the vascular and discoloured part of the growth.
- 2' The same more highly magnified, showing two large vascular channels.
- 3 The deepest layer of the growth, and which adhered to the anterior elastic lamina.
- 3' A portion of the same more highly magnified, showing the transition from connective tissue at its upper part, to pseudo-corneal tissue at its lower.
- 4 Dense layer of epithelium, with vascular papillæ (6).
- 5 Vascular layer.
- 6 Papilla.
- 6' The same highly magnified.
- 6'' A portion of the same still more highly magnified.
- a Vascular channels with large granular nuclei interspersed.
- b Epithelium. The white bands indicate the transition from connective tissue to epithelial.
- 7 & 8 Indicate large vascular channels.
- 9 A mass of large cells, which appear to have replaced the tumour first removed, situated immediately above the corneo-sclerotic junction.
- 9' The same more highly magnified, consisting of (a) layers of epithelium and (b) large encapsulated cells.
- 10 Sclerotic conjunctiva.

(C) Diagrammatic view of the size and position of the growths.

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Original Articles.

I.—CLINICAL NOTES ON EPITHELIOMA.

By THOMAS REID, M.D., *Lecturer on the Eye in the University of Glasgow,
Surgeon to the Eye Infirmary.*

THE following notes on epithelioma refer chiefly, though not exclusively, to this disease as it occurs in the eyeball and its appendages—the eyelids, &c., and principally with the view of giving accurate and detailed sketches of the morbid products and their anatomical relations to the adjacent tissues. In a disease such as this, where there is considerable diversity of opinion as to its origin, development, and true character, it is very desirable that an accurate distinction should be drawn between the primary and secondary products, between the true cancerous structure and cancerous infiltration of an otherwise healthy structure. Another question of considerable importance is whether epithelioma, wherever it makes its appearance, always has a uniform and invariable histological character, whereby it can be distinguished from other morbid products; or, on the contrary, presents all the varieties of structure seen in other tumours, passing insensibly into and undistinguishable from them.

In order to arrive at definite conclusions on these and other points, it is absolutely necessary that the diseased structure should be examined in its early and later stages ; because it is just possible that what has been hitherto recognised as epithelioma may originate indifferently in the dermic and sub-dermic tissues, varying in histological character and degree of malignancy, having this, however, in common, that in whatever tissues it originates it invariably leads to progressive ulceration, and, unchecked, ends in death.

The scope of these notes forbids lengthened discussion of the recent and conflicting views of Virchow, Thiersch, Waldeyer, Köster, &c., further than will naturally be suggested in the clinical and pathological descriptions. Indeed, the time has not arrived, and well ascertained facts are too few, to admit of definite conclusions being drawn as to the nature and origin of this disease. These notes, then, are intended rather as contributions to the study of epithelioma, drawn from the practice of the Glasgow Eye Infirmary and other sources during the last ten years.

The following case is interesting on account of its rarity and purely epithelial origin.

Kenneth Mathieson, fisherman, aet. 48, was admitted as a patient to the Glasgow Eye Infirmary on the 16th Sept., 1865, with what appeared at first sight to be a large vascular ulcer of irregular outline, occupying nearly two-thirds of the area of the cornea of left eye. This structure was of a dark brown colour, and bounded by a greyish-white margin of about half a line in breadth, and slightly raised above the level of the surrounding healthy cornea. The growth appeared to have originated at the outer corneo-sclerotic junction. From this point a broad vascular band, resembling a pterygium, extended as far back as the outer canthus, and had a direct communication with the vascular portion of the growth. In addition to this vascular band the circumcorneal vessels were greatly enlarged, and at various points branches traversing the transparent cornea entered the tumour, notably one large branch from the superior rectal vessels. History:—The growth made its appearance at the outer

margin of the cornea six years previous to his admission, and three years after was removed. It soon recurred, gradually assuming its present appearance and magnitude, and from its position completely obscuring the vision. (See Fig. A.) The patient was submitted for consultation to the late Dr M'Kenzie, who pronounced it to be a case of epithelioma of the cornea, and advised its removal. The patient having been put fully under the influence of chloroform, I transixed the vascular band at a short distance from the margin of the cornea, and not being quite sure how far the deeper tissues were affected, separated the tumour carefully from the subjacent healthy tissues. There was considerable hæmorrhage, chiefly from the vessels in the ciliary region. After removal of the tumour, it was evident that the corneal tissue had not been affected, and it presented the appearance simply of an extensive epithelial abrasion. On the third day the epithelium was entirely reproduced, and the vision perfect. The enlarged circumcorneal vessels had shrunk, and the appearance of the eye was normal.

The tumour after removal was soft and friable, but on immersion in chromic acid was found to cut like a chondrinous substance. A vertical section through its entire thickness, and in the direction of the line in Fig. A., presented the following appearances:—1. A dense layer of epithelium. (Fig. B. 1, 4, 6 and 9.) 2. A connective tissue highly vascular. (Fig. B. 5, 7 and 8.) 3. Pseudo-corneal tissue. (Fig. B., 3.) The epithelial layer consisted of three distinct structures. Opposite the margin of the cornea a mass of large, loose cells, containing frequently more than one nucleus, and occasionally encapsulated cells (9 and 9'). This mass probably occupies the site of the tumour removed at the first operation. The centre, corresponding to the discoloured part, had numerous papillæ (6); and lastly, the opaque margin composed of corneal epithelial cells, also frequently encapsulated. (1 and 1'). The vascular portion was almost entirely composed of a loose network of vessels with very thin walls closely allied in structure to naevus tissue, with the addition, however, of large granular cells of a rather suspicious character. The

deepest layer resembled the early condition of the cornea, containing nuclei, &c.

What may have been the nature of this tumour is not so easy to determine. The opinion of the late Dr M'Kenzie, as we have seen, was in favour of its cancrioid character. The great increase and altered appearance of the epithelial cells seemed to favour this view. On the other hand, the intense vascularity and dark brown colour of the tumour presented a very close resemblance to the early condition of what Virchow calls cutaneous melano-sarcoma of the eyeball, and of which he has given a figure.* The presence of a pseudo-corneal tissue, unconnected with the true corneal substance, is quite in accordance with what we know of morbid growth in other tissues. As the patient has not returned at this date, it is not known whether or not there has been any recurrence of the disease.

Tumours of the cornea are not by any means common. Dr M'Kenzie, in the last English edition of his work, quotes a case from Travers in which the tumour covered the whole cornea. The anterior half of the eyeball was excised. "On examination of the tumour, the cornea and sclerotica proved to be entire, and the morbid growth lying upon and adhering to the cornea, and a small portion of the sclerotica, had acquired the [lobulated] appearance, as if by degeneration of the investing conjunctiva." P. 253. In the last French edition of the same work, another case is recorded from the ophthalmic institute of Brabant. It was excised in 1853, and in this case also the corneal tissue was not affected. The tumour was of a melanotic character, and recurred in two years. In 1845 the translator saw a female in London who had been operated on by White Cooper for a melanotic tumour of the conjunctiva situated at the junction of the cornea and sclerotic. It had not returned at the above date. The case was published in the December number of the *London Medical Gazette*, 1842.† Three cases of cancrioid of

* *Krankhaften Geschwülste*, Vol. II., p. 279.

† *Traité Pratique des Maladies de l'œil*. 4th Edition. Translated by Warlomont and Testelin.

the cornea are recorded by Wecker.* Two from the practice of Von Gräfe, and reported in the *Archiv für Ophthalmologie*, Band VII. The tumours, after excision, were examined by Virchow, who found the characteristic encysted cells peculiar to epithelioma; one recurred within a year. The third occurred in the practice of M. Sichel, in 1859, and was seen and examined by Wecker. In all these cases the tumours originated in the ocular conjunctiva, and at the junction of the cornea with the sclerotic.

(To be continued.)

II.—ON EPIDEMIC SCARLET FEVER.

By DAVID EASTON, B.A., M.D., *Stranraer*.

THE following remarks are a record of observations made by me on scarlet fever as it occurred epidemically in this town and neighbourhood about eighteen months ago. Many opportunities of observation were afforded me, for, during the period of the epidemic, I treated upwards of three hundred cases. My experience as a practitioner may be of some value to my professional brethren, and with deference and respect I beg to submit it to their consideration.

The history of epidemics is always interesting to the physician, and it is of special value as showing not only the changing character of the disease, but also the consequent change in the treatment of it. This is emphatically true of scarlet fever, than which there is no affection that more thoroughly tests the resources of our art, or more frequently fills the mind of the physician with anxiety, or oftener disappoints by its sudden and unexpected result. It is of the last importance for the physician to make himself thoroughly conversant with the special tendencies of any particular disease or type of disease, for it is only in accordance with the extent and accuracy of his knowledge of these tendencies that he will be prepared to treat successfully the various symptoms which in its course the disease may successively display. There is no better way of acquiring

* *Etudes Ophthalmologiques*. p. 196.