Concerning persistent pupillary membrane, and its frequency / by Sydney Stephenson.

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Concerning persistent pupillary membrane, and its frequency.

By Sydney Stephenson.

(With Plate VI.)

The idea appears to be still current that Persistent Pupillary Membrane is a comparatively rare condition, but my own experience is so opposed to that view that I may perhaps be pardoned for bringing forward the subject this evening.

I may at once state that among a total of 3414 eyes I have detected vestiges of pupillary membrane no less than sixty-eight times,—that is to say, in 1·70 per cent. of the cases examined.

As regards sex, the percentage among 1994 males was 1·81, and among 1420 females, 2·25. The difference between these figures is not striking, yet it may perhaps point to the conclusion that females are more prone to this survival than males.

Of the sixty-eight cases, thirteen showed persistent pupillary membrane in both eyes, and the others in one eye only. With regard to the latter or monocular cases it may be noted that the right eye was the seat of the anomaly in twenty-five instances, and the left eye in the remaining seventeen. In no case did the vestiges interfere either with sight or with the action of the pupil.

In describing the characteristics of the condition it will be well to adopt a primary division into *pupillary* and into *capsulo-pupillary membranes*. This distinction, which is based upon embryological grounds, has been specially insisted on by Dr. W. J. Collins in this country, and possesses, I think, some practical importance. The pupillary membrane arises from the small circle of the iris (the so-called *corona*), and passes across the aperture of the pupil to be inserted elsewhere into the *corona;* it has no connection with the anterior capsule of the lens.

The capsulo-pupillary membrane, on the other hand, arises from the corona, and is inserted into the capsule of the lens, with or without a terminal *plaque*.

The only example of capsulo-pupillary membrane included among my sixty-eight cases was in a boy twelve years of age. Three brownish filaments, arising from the inner half of the *corona,* were attached to a small grey opacity situated over the anterior pole of the left lens (Plate VI, fig. 1).

The remaining sixty-seven cases were examples of pupillary membrane pure and simple, and all fell into one or other of the three following groups, arranged in order of frequency. To be strictly accurate, the fact should be noted that a few of these cases did not preserve in their entirety the characteristics of their particular group. These anomalous examples have been classified, however, in accordance with their salient features.

1. A filament or filaments traversing the pupillary area in various directions (Plate VI, figs. 2, 3, 4, 5, and 6). These threads invariably arose from the *corona,* and were often so extremely fine as to need a magnifying glass to bring them into full view. In three instances two threads united in front of the pupil, so as to form a Y-shaped figure ; in three others more than two filaments were present ; but in the majority of cases a single strand only was observed. The filaments usually subdivided at either end. Their colour generally resembled that of the iris, sometimes in their whole length, but more often at their terminal points alone. Small nodules, varying from one to six in number, were present in the course of the filaments in nine instances. The first group included forty cases.

2. Filaments with a festoon-like arrangement, joining adjacent parts of the *corona* (Plate VI, fig. 7). This second group comprised fourteen cases.

3. A single filament attached at one end to the *corona,* with the other end free in the aqueous humour (Plate VI, figs. 8 and 9). Thirteen cases were comprehended under this section.

Capsulo-Pupillary Membrane.

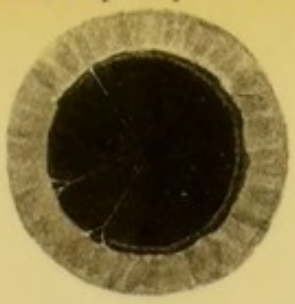

Fig. 1.

Pupillary Membranes.

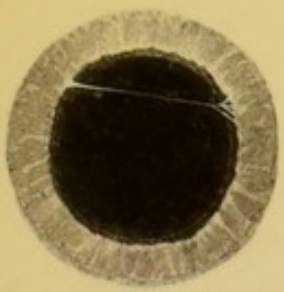

Fig. 2.

Fig. 3.

Fig. 4.

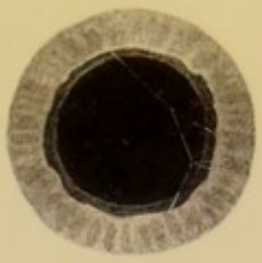

Fig. 5.

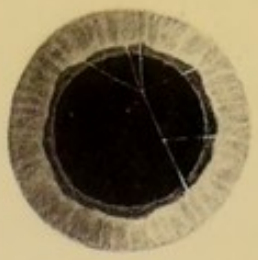

Fig. 6.

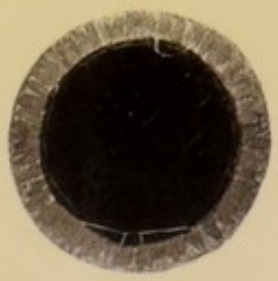

Fig. 7.

Fig. 8.

Fig. 9.

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That the tendency of this fœtal survival is to reproduce itself in members of the same family is clearly shown in the four following instances. Families A and B, brother and sister; family C, two brothers; family D, three sisters: all showed vestiges of pupillary membrane. It was not possible to include all the members of the different families in this examination. The fact is, however, highly significant, that in all those examined traces of membrane were discovered, and it is probable that a more extended investigation would have disclosed other instances of the same condition.

Persistent pupillary membrane is not infrequently associated with other congenital anomalies of the eye. In this connection I noted, for instance, Congenital Crescents eight times, and Opaque Nerve-fibres once.

It has been suggested that persistent pupillary remains are likely to disappear during the earlier years of life. My present figures lend, however, no support to such a view. For example, the percentage of pupillary vestiges in 152 eyes of children three years of age was 2·6, while in 270 eyes of children eight years of age it was 3·33.

The conclusions I have reached with regard to persistent pupillary membrane are as follows:

1. That, while Capsulo-Pupillary Membrane is uncommon, threads of pupillary membrane are not infrequently met with.

2. That when monocular the survival is more likely to occur in the right than in the left eye.

3. That females are somewhat more likely than males to show vestiges of the membrane.

4. That members of the same family are often affected.

5. That absorption of the filaments does not appear to take place after birth.

6. That persistent pupillary membrane may be associated with other developmental defects of the eye.

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