

TRAUMATIC LENTICONUS POSTERIOR*

BY

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IN 1913 Fisher¹ reported a case in the *London Ophthalmic Review* of traumatic posterior lenticonus. Upon investigation of this case several factors led Marsh² to assume that this was not a true case of traumatic lenticonus posterior. Fisher's patient was a physician about 40 years of age who sustained a "cricket ball" injury to his left eye. When first examined the patient complained of inability to read with his right eye at close range. The eye examination was essentially negative and since the patient's distance vision was 20/20 at this time, nothing was noted or recommended. However, when this patient was re-examined 15 months later the eye had become markedly myopic, requiring a correction of -5.00 D. sph. -5.00 D. cyl. 30°. At this time Fisher noted that a typical lenticonus posterior was present. The eye continued to get increasingly myopic and eventually became cataractous. In reporting this case before the society, Fisher stated that he had no doubt whatsoever, that this was a true case of traumatic lenticonus posterior.

However, Marsh², in his review upon lenticonus posterior in 1932, when discussing the various theories of lenticonus posterior, dismissed trauma as an aetiological factor by stating that Fisher had no slit-lamp examination to substantiate his case presentation.

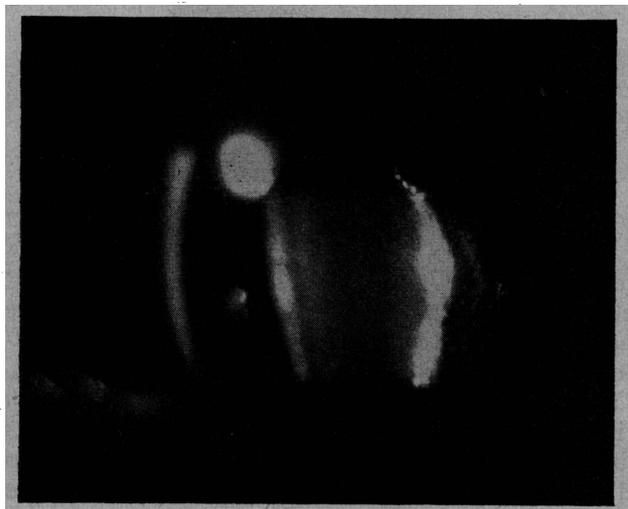
If by definition lenticonus posterior is a "congenital transparent, hemispherical prominence circular in outline, superimposed upon the posterior pole of an otherwise normal lens," then indeed it is difficult to include many cases with structurally abnormal posterior lenticular contour, but if by lenticonus posterior is meant an abnormal lenticular herniation so that there is disturbance in the symmetry of the curvature of the posterior capsule, then it is possible that this condition may result from multiple causes. I therefore wish to present two cases—definitely of traumatic aetiology which offer typical post phakal protrusion.

Case 1 is that of a young man aged 23 years who received a penetrating injury to the left eye following an explosion. The explosion occurred when the patient was about 5 feet from the missile, a non-magnetic foreign body entering the corneo-scleral junction at approximately eleven o'clock. A shiny calcium-like encrusted scar was present at this area. The iris corresponding to this same sector was atrophic, detached from its peripheral union, and tremulous. Transillumination was apparent at its base

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CASE 1. (Narrow Beam)



CASE 1.

and its pupillary portion was chord-like. There was an adhesion of the iris to the anterior capsule of the lens at this same meridian. The path of the projectile could be followed along this same sector of the lens right through the thickness of the lens to the posterior capsule where at approximately eleven o'clock a very dense white deposit—almost chalky white—yet with a metallic lustre resembling white gold, was readily seen. The entire posterior

cortex seemed to be encrusted by small, white, round, salt like deposits very much resembling stars in the sky. The posterior capsule seemed to bulge posteriorly. The vitreous also seemed to partake of this star formation and in one area upon the nasal side—one small "star" seemed to move up and down with the movement of the eye. The slit-lamp picture illustrates the posterior bulge and the punctate lenticular and vitreous deposits.

Case 2 which I have previously reported as a case of "Chalcosis Lentis associated with traumatic lenticonus posterior"* also shows the prominent bowing posteriorly of the centre of the posterior capsule of the lens. In this case the posterior capsule appeared to be "rolled up" upon itself in two regions much like



CASE 2.

"glass leisen bodies" in the anterior chamber. This "rolling upon itself" of the posterior capsule resulted in glass like tubings which had the same effect when struck by the beam of light as does the edge of a dislocated lens. The capsular tubings took the shape of an aeroplane wing and can be seen in the slit-lamp picture. It is possible that in this case trauma has produced a process similar to lamellar separation allowing the capsule to roll up on itself and the region between these "tubes" to herniate because of its loss of resistance.

I have seen a third case which unfortunately I could not photograph, in which the posterior capsule showed a very slight bulge when examined in the zone of specular reflection. This bulge was so slight that it appeared to involve not more than a single layer and the entire region of the bulge was included in the section being viewed. This case was also one of an intra-ocular foreign body. I have had no opportunity of examining this patient again.

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The "ring of fire" reflex described by Vogt in posterior lenticonus is possibly the result of such a "tube" formation and the play of light which it may produce. Whatever other secondary features are found associated with lenticonus posterior could follow intra-uterine trauma which in the light of these case reports must be given special consideration. If by definition these cases cannot be included under the term lenticonus posterior then perhaps they may be considered as traumatic post phakal protrusions.

REFERENCES

1. FISHER (1913).—*London. Ophthalm. Rev.*, Vol. XXXII, pp. 97-101.
2. MARSH.—*Arch. of Ophthalm.*, Vol. VIII, p. 804.

AN UNUSUAL TYPE OF ANTERIOR TRAUMATIC CAPSULAR CATARACT*

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SOME time ago I had the good fortune to examine a patient who had walked into a limb of a tree which he did not see, thus striking his eye directly upon one of its pointed terminal twigs. Nothing was done for the eye that night—the eye was neither painful nor irritated. The next morning the patient visited his family physician who referred him to an eye specialist. He was immediately hospitalized, and for a period of two weeks drops were instilled in his eyes. After 48 hours the patient noticed a gradual diminution of vision in his left eye. He was told that he had sustained a penetrating injury of the cornea and that a traumatic cataract was developing.

One month after the original injury the patient appeared at my office. Several interesting slit-lamp findings were observed. A "thru and thru" irregular corneal scar was seen just about the centre of the cornea 1 mm. in size and shaped like a letter "V." The anterior capsule of the lens presented an elongated white opacification which was primarily scar tissue. (See Fig. 1.) There were several folds radiating from the main scarred mass of the anterior capsular cataract. (See Fig. 2.) The anterior chamber was rather shallow. The appearance of the radiating folds and the suggestion that the anterior capsule was thrown into multiple waves was so striking that a photograph was attempted which is shown in Fig. 2.

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