

vision, and the disease never ends in blindness. The loss of central vision is always progressive up to a certain point. Improvement of the vision, after the retinal disease is established, cannot be expected, though in favorable cases the existing vision may be maintained.

Hemorrhages into the retina are rare except in the comparatively early stages of the disease. When the vessels lose their elasticity by reason of the increase in the thickness of their walls, due to the deposits, they become stronger and more rigid, and hemorrhages are no longer to be feared.

The most marked feature in the ophthalmoscopic picture is the development of the angio-sclerosis in the vessels of the retina. This condition is confirmed by the microscope, and is seen to extend to the vessels of the optic nerve and choroid.

Another almost equally marked symptom is the peculiar yellowish granular exudation in the retina, located by the ophthalmoscope around the posterior pole of the eye, and generally leaving the macula intact until late in the course of the disease. This exudation is shown by the microscope to be mainly in the nerve-fibre layer, though found in all the layers except that of the rods and cones.

The changes in the optic nerves seem generally to be intraocular, but have been traced occasionally for some distance back of the eyeball.—*Transactions of the Fourth Congress of American Physicians and Surgeons, 1897, p. 4.*

Positive Aberration Due to Flattening of the Cornea.—DR. AXENFELD (Marburg) reports the case of a girl, aged fourteen years, whose eyes had been inflamed in childhood, who presented in one eye hyperopia of 5 D. in an area at the centre of the pupil about 5 mm. in diameter; while at the periphery of the pupil, moderately dilated, without a mydriatic, she had myopia of 8 D.; and the cause of this great difference in refraction was for the most part in the cornea.

This anomaly of refraction was confined to the right eye. Between the hyperopic centre and the myopic margin was a zone approximately emmetropic. Her vision was 6/xviii without any lens, the same with — 7 D., and slightly better with + 5 D. The reflection from the cornea of parallel black and white bands, instead of being narrowest at the centre of the cornea, as is usual in normal eyes, was much broadened in this region.—*Archives of Ophthalmology, October, 1897.*

[Axenfeld, in place of the term "Positive aberration," employs the clumsy phrases "Corneal curvature the opposite of kerato-conus; corrigible peripheral myopia, and corrigible central hyperopia in the same eye." He urges that such cases should be removed from the group of irregular astigmatism and studied separately.

The editor, in a paper on the "Measurement of Refraction by the Shadow-test, or Retinoscopy," published in this JOURNAL April, 1885, called attention to "a bright circle at the margin of the pupil, with a fainter central area, which indicates curvature of the crystalline lens, greater toward the margin than near the centre of the pupil."

And in 1887, in a paper on "Symmetrical Aberration of the Eye," read before the American Ophthalmological Society, and published in its *Transactions*, he discussed at length this anomaly of refraction. This latter paper

began thus: "From among the various defects of the dioptric media grouped by Donders under the one name, 'normal irregular astigmatism,' it seems of practical importance to isolate and habitually study alone the defect, or factor of defect, to which attention is here directed." The particular defect present in Axenfeld's case, resembling spherical aberration, was designated as Positive Aberration.

Aberration of this kind is present in the great majority of eyes, but is rarely of such high degree, and almost always depends upon the increased curvature of the periphery of the crystalline lens, rather than a flattening of the centre of the cornea. As the shadow-test comes to be more generally practised more of these cases are noticed. The careful study of them is likely to throw important light on the process of change in the refraction of the eye and the factors that produce it.]

Etiology of Dacryocystitis.—J. W. H. EYRE (London), from a study of the subject made in the bacteriological laboratory of Guy's Hospital, arrives at views of the etiology and pathology of this condition quite opposed to those commonly held, which regard the dacryocystitis as secondary to obstruction of the lachrymal passages. He admits that stricture of the nasal duct, when present, forms a very obvious predisposing cause of dacryocystitis; but is adverse to admitting its presence in all or even many of these cases. He regards stricture of the duct as a result of a long-continued suppurative process of the sac rather than a cause.

The steps by which it is brought about, he believes, are: 1. Invasion of the conjunctival sac by the streptococcus pyogenes longus, resulting in an attack of acute conjunctivitis. 2. Flushing of the conjunctival sac by lachrymal secretion and the washing of the streptococcus through the canaliculi into the lachrymal sac by the stream of tears. 3. Excessive secretion of mucus and exudation of leucocytes into the interior of the sac in the endeavor to remove the intruders. 4. Invasion of the mucous membrane lining the interior of the sac by the streptococcus, the appearance of the organism in the submucosa and finally in the cellular tissue surrounding the sac, and the consequent formation of pus in those situations to which it has gained access.—*Ophthalmic Record*, November, 1897.

Rapid Changes in Refraction in Glycosuria.—S. D. RISLEY (Philadelphia) reports two cases in which very important changes in the refraction were associated with variation in the amount of sugar secreted in the urine.

In one case of rapid improvement in the general condition, the sugar, which had been very abundant, entirely disappeared. The patient, aged forty-nine years, then found she could no longer read or see distant objects clearly with her glasses, + 2.75 D., although she had done so until within a few days. Under a mydriatic she was found to have full vision with + 5.00 + 1.25 cyl. and + 6.00 + 0.75 cyl. Ten days later, the glycosuria having returned, she was found to require lenses of 3 and 3.50 D. sph., with the above cylinders; and fifteen days after this she obtained full vision only with sphericals reduced to 1.25 and 1.50 D. There was no opacity of the lens.

The other patient, aged seventy-four years, had been carefully fitted with glasses. But six months later, his condition being improved in all other