

BOOK NOTICE

On Inflammation of the Eye caused by Resorption of Crystalline Lens Matter in the Eye Lymph. (Over Ontstekingen van het oog veroorzaakt door oplossing van lensmassa in de ooglymphe.) By Professor M. STRAUB. Amsterdam: J. H. de Bussy. 1919.

This little book is not only another proof of Straub's unflinching diligence (he worked until his death), but is also a token of the love and friendship he inspired in the hearts of his former assistants, who, three years after his death, have edited with the utmost care this manuscript, as a sign of gratitude to their late master.

Straub's treatise deals with the toxic influence exercised upon the eye by lens matter in solution. Although this effect is well known, it is scarcely mentioned in text-books and periodicals, but Straub believes it to be of great importance, and according to his views, it often causes inflammation, which he calls phacogenetic, and, perhaps, even glaucoma. The treatise, which was meant to be part of a larger book, deals chiefly with phacogenetic inflammation, and touches slightly upon a new phacogenetic theory of glaucoma. Straub mentions the possibility that while a great quantity of lens matter may cause chronic or acute inflammation, even very small quantities continually penetrating into the fluids of the eye might exercise a slight irritation, and set up adhesive inflammation of the angle of the anterior chamber. In young people the lens matter is not at all toxic, or much less so than in the old.

The author has studied the action of dissolved lens matter in—

- (1) Cases of cataract extraction and of traumatic cataract.
- (2) Dislocations of the lens.
- (3) Spontaneous resorption of senile cataract.

According to Elschnig, Uhlich, and others, in eyes hitherto normal, after the extraction of cataract, an iritis or iridocyclitis may appear without infection, caused by the injury of the iris and the mechanical and chemical action of the lens-remnants. Straub believes that in such cases trauma and mechanical action are of little significance, but that the origin of the inflammation is to be sought in the chemical action of the remains of the crystalline lens. Even very small amounts of lens may cause inflammation, so that in most eyes posterior synechiae are to be found after the extraction of cataract, whereas in intracapsular extraction, or in very old people, where the lens leaves its capsule *in toto*, no synechiae appear. The writer observed on one occasion that in the eye first operated upon the expected inflammation occurred, while in the second eye there was no irritation at all after extraction. Straub explains this by immunity set up by the dissolved remains in the

first eye. He put his experience into practice in a second case, where the capsule was wounded during a preparatory iridectomy. The consequence was violent inflammation, which lasted for forty-eight days despite the usual treatment. Straub then practised the subcutaneous injection of a pig's crystalline lens suspended in sodium chloride solution. He intended to inject a human lens afterwards, but this was not necessary because four days after the first injection the inflammation began to lessen and the eye was soon quite well.

If Straub's theory is correct we can cure this kind of inflammation in traumatic cataract by extraction of the lens; although, if treatment by the method of injection of suspended lens matter proves to be effective, we can first get rid of the inflammation and then extract the lens, and in that way avoid interference with an inflamed eye. It is, therefore, necessary that we should be thoroughly well acquainted with the disorders associated with lens resorption, because a correct diagnosis, made in time, might save an eye that would otherwise be lost.

Straub shows in this book the course and symptoms of phacogenetic inflammation as taught by clinical cases and explained by microscopical examination. When the capsule has a slit in the anterior part we find signs of iridocyclitis, deposits on Descemet's membrane, oedema of the cornea, hyperaemia of the iris, and posterior synechiae. When the slit is in the posterior capsule, exudation is found in the vitreous. The diagnosis may possibly be confirmed by swelling of the limbus, which was observed in microscopical sections. The inflammation, as a rule, proceeds by fits and starts, and probably diminishes when the slit is closed and increases when it is open again. The size of the opening will determine the amount of lens-matter dissolved, and the degree of inflammation.

In a typical case exudation is found in and about the lens, in the iris, on Descemet's membrane, on the surface of the hyaloid cavity, on the retina, and around the retinal vessels. Those vessels are often surrounded by a thick girdle of lymphocytes, whereas the choroid is normal except at the ora serrata, where the vessels may also be enclosed in lymphocytes. When there is a break in the choroid more lymphocytes are found in the membrane. Straub thinks that the encircling of the retinal vessels by lymphocytes is of little importance, since clinically the retina may retain or recover its complete functions. For a similar reason Straub believes that the analogous infiltration found in the choroid in sympathetic ophthalmitis has no clinical significance, and that it will be necessary to revise the entire chapter of the pathology of that serious disease.

Straub further deals with the form and the size of the white blood

cells in these eyes. At the place of origin of the inflammation, where the largest amount of the toxin is present, we are accustomed to find polynuclear cells, and in this way the lens is histologically shown to be the cause of the disease. In some eyes the track of the polynuclear cells even guides us to the small spots where the toxins leave the capsule. The disease is neither a genuine cyclitis nor a hyalitis; both ciliary body and vitreous are invaded secondarily by toxins and white blood cells. In eyes with tubercle in the ciliary body we find a collateral hyalitis (Straub), and in the conditions under discussion we find the same, but the toxins emerge from the lens instead of from the ciliary body. As most of the membranes of the eye are infiltrated, Straub calls the disease *endophthalmia phacogenetica*. The cause of the resorption of lens matter may vary; in case 1 it was cataract extraction; in cases 2, 3, 14, capsular injury in iridectomy; in cases 7, 8 and 9 an injury; in cases 4 and 10, it was not known; in cases 5, 6, and 8, the inflammation appeared in the second eye some months after operation upon the first. It is probable that the capsule in old subjects, especially when suffering from cataract, is more fragile than in other eyes, so that slight causes are enough to tear it. Straub believes that in case 8, that of an English physician, a rent in the capsule of the cataract of the second eye was sustained during a rough crossing of the channel, and that this caused an inflammation which lasted only a few days. The treatment in such a case would be extraction as soon as the eye was quiet again or earlier, if the inflammation did not subside. Another possibility mentioned by Straub, is that where, in the eye that has been operated on, lens matter is resorbed, capsular matter may also be resorbed, and that the hypothetic substances which cause the capsular resorption also penetrate in the second eye and attack the capsular membrane.

The disease may often be found in blind eyes removed on account of pain. It is well to remember that the cause of pain in such eyes may be *endophthalmia phacogenetica*, because extraction of the lens may possibly succeed in saving the eye. Other causes of the disease named are dislocation of the lens and spontaneous resorption of cataract. Ask, in his excellent monograph on dislocation of the lens, publishes many cases of irritation caused by chemical action exerted by the lens, especially when the capsule was ruptured. Straub found this condition to be less frequent, since it occurred in only one of five eyes, the lenses of which were dislocated. Spontaneous resorption of cataract often causes eye disease, mostly while the process is active. In thirty-four cases von Reuss found inflammation in seven and glaucoma in seven. Peters, Harms, and others have also published complications of absorption of the lens. It is not certain that all the inflammations are set up by the lens toxins.

In some of the eyes examined Straub found atrophy of the lens and of the iris and ciliary pigment cells.

Straub believes that in cases of heterochromia iridis with cataract (Fuchs) the atrophy of the iris is secondary to the disease of the lens; the exudation cells take pigment from the iris with them, as we can see in the deposits on Descemet's membrane.

We have said enough to show that Straub's book deals with highly-interesting problems. It includes fifty-six splendid microphotographs.

J. VAN DER HOEVE.

CORRESPONDENCE

OPHTHALMIC PHYSICIANS

To the Editor of THE BRITISH JOURNAL OF OPHTHALMOLOGY.

DEAR SIR,—In your annotation on my paper, the main object of the paper seems to have been lost sight of.

My paper is entitled, "The Need of Ophthalmic Physicians for the *Advancement of Ophthalmology*."

My argument is not so much that patients suffer from our want of medical knowledge or the want of surgical experience, but that the future progress of ophthalmology must mainly be dependent on *medical*, as opposed to surgical, research. There are so many questions we want answered involving medical research, and it is not sufficient for the ophthalmic surgeon to submit cases or questions to the physician.

The physician, in order to carry out research, must study for himself the ophthalmic problems and their allied conditions. It is no use our submitting allied questions to him. We shall never get any further on those lines.

Take the list mentioned in my paper: cataract, detachment of the retina, conical cornea, irido-cyclitis, etc. What chance is there for him to arrive at a conclusion as to cause, unless he is in a position to watch the case himself?

Dr. Ernest Thomson, in a letter to the *Lancet*, and many of my critics at the discussion on my paper, seem to find a special difficulty in the question of *Refraction*—whether it should belong to the physician or the surgeon. I must confess I fail to see where the difficulty arises. To my mind, it is impossible to conceive investigating any eye case, whether it be surgical or medical, without a knowledge of the refraction. It is as much a routine part of examining an eye as taking the tension, the pupil reaction, or the visual fields; and any ophthalmologist, whether physician or surgeon,