contents consist of red cells, a few scattered nucleated cells, and material retaining only the ghostlike form of cells.

Conjunctival implantation cysts are comparatively rare. Although in this case the cyst was found in the region of a rectus tendon suture, it is thought to be unconnected with this; the implantation of conjunctival epithelium probably occurred while a conjunctival suture was being drawn from without inwards. As a suture is being drawn through, the conjunctiva tends to drag unless it is steadied, and it is suggested that it should be held near to the entrance of the suture, and kept on the stretch, to obviate this drag as much as possible.

I am indebted to Mr. Humphrey Neame, under whose care the case was admitted, for help with this report, and to the Director General of Medical Services, Ministry of Pensions, for permission to publish it.

THE DIAGNOSTIC SIGNIFICANCE OF RETRO-BULBAR NEURITIS

BY

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A CASE of retro-bulbar neuritis always arouses in our minds the query "does this signify the onset of disseminated sclerosis?", for a good proportion of cases are followed by this dread disease.

In the case here described, it was the precursor, not of disseminated sclerosis, but of two other diseases, viz. iritis and rheumatoid arthritis.

F.T., a woman aged 20 years, was attacked by retro-bulbar neuritis in 1923. As happens in an unpleasantly large percentage of cases, all search for a cause proved fruitless, but she recovered spontaneously in 7 weeks. Three years later she began to suffer from rheumatoid arthritis and the next year from iritis. When first seen by me in 1931 for her third attack of iritis, the arthritis had advanced to marked deformities, and for the last 5 months the acute pain in her joints had confined her to bed.

F.T. had thus been the victim of 3 successive diseases, retro-bulbar neuritis, arthritis and iritis, to none of which had it been possible to ascribe any cause. They are in fact 3 of our medical problems.

On the supposition that a septic focus might exist in the sinuses, in spite of the absence of nasal signs or symptoms, an attempt was made to drain them. By the application of argyrol and

glycerine to the nasal cavities, an immediate response was obtained in a flow of mucus, changing in 3 weeks to the discharge of small lumps of muco-pus. The iritis, which had lasted for 5 weeks, promptly cleared and the arthritis was brought to a standstill, with freedom from pain, in 3 weeks. F.T. was soon able to leave her bed and later to travel in a car without pain.

A septic focus in the sinuses, responsible for both iritis and arthritis, was thus demonstrated. While this had remained unsuspected and untreated, it is not surprising that none of all the usual remedies for arthritis had succeeded in relieving her or checking the progress of the disease, even though these had been tried for 5 years.

It seems somewhat startling, nevertheless, to find that the pain, which had lasted 5 years and during the past 5 months had been acute enough to confine her to bed, could cease in so short a time as 3 weeks. We have followed so many hopeful clues in rheumatism, only to find them end in disappointment, that when we finally light on a real clue, we can hardly believe that we have arrived. Yet, logically, when the actual cause of the disease is being eliminated, we would expect just what did happen.

The result points the moral that we need some means of discovering the existence of *closed* sinusitis other than those in ordinary use. This is more particularly the case when the sinusitis is in an earlier stage, causing mainly local symptoms, before it has broken bounds and, by infecting the blood stream, has become a potential danger to any organ or part of the body.

It is at this stage, that is when it is causing retro-bulbar neuritis, that the case is seen by the ophthalmic surgeon. When, as in this case, rhinological examination finds the nose normal, we must beware lest we be like those who suppose, as George Eliot puts it, that "there was nothing behind a barn door because they couldn't see through it."

In previous papers, ^{3, 4} and ⁵, I have shown that the ophthalmic surgeon can look behind the closed doors by taking the *fields of vision*. The contracted fields reveal the activities of the hidden exudation deprived of its normal exit. This is confirmed by the widening of the fields and the restored sight when drainage becomes re-established.

This patient was too ill to permit perimetric examination and the diagnosis was made, as can often be done, by the *history*. Three successive diseases, known to be due sometimes to sepsis, pointed to a focus of origin somewhere in the body. As no such focus had been found, the sinuses were suspected, since here infection is known to linger on for long periods. They are moreover constantly open to infection from influenza, colds, the exanthemata etc. That this infection can remain completely hidden for

months or years has been reported.¹⁻⁵ Its existence in this patient was confirmed by the results of treatment.

The diagnosis was made when the patient was 28, *i.e.*, 8 years after the retro-bulbar neuritis. Had it been made at 20, when the disease was still localised, it seems clear that there need have been no arthritis and no iritis.

The early recognition of sinusitis at this stage thus gives to the ophthalmologist a rôle in the prevention as well as the cure of disease which the absence of nasal signs and symptoms denies to the rhinologist. It gives also to retro-bulbar neuritis a diagnostic significance in the aetiology of later disease.

Summary

A five weeks iritis promptly cleared and an acute rheumatoid arthritis which had steadily advanced for five years, was brought to a standstill in three weeks by drainage of the para-nasal sinuses.

The absence of nasal signs and symptoms had prevented earlier recognition of the sinus disease, and the case thus shows the need for other methods of diagnosing *closed* sinusitis than those in ordinary use. One such means is provided by the fields of vision.

The earlier retro-bulbar neuritis, when the sinus disease was causing mainly local symptoms, was a danger signal. Recognition of this signal in other cases, will give to the ophthalmologist a rôle in the prevention as well as in the cure of disease, and to retro-bulbar neuritis a diagnostic significance in the aetiology of other diseases.

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ANNOTATION

Ophthalmological Notes and Queries

A letter from Mr. Francis E. Preston under the above heading was published in our January Number (p. 42). The question of reserving a portion of the Journal for short case reports has been discussed by the Editorial Committee on more than one occasion