UVEITIS

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The diagnosis of uveitis, especially of the low-grade recurring type, is one of the most exacting problems in medicine. Difficult to diagnose, difficult to treat, and offering a very poor prognosis, uveitis comprises one of the largest groups of ophthalmological cases. Few persons, other than the ophthalmologist, appreciate the loss of sight from this disease and its economic cost.

Uveitis may occur in two forms: (1) the acute exudative type which may be rapid and severe, or rapid and short-lived, and (2) the low-grade recurrent type which may present itself in recurring severe attacks, recurring mild attacks, persistent severe attacks, or persistent insidious mild attacks. Differentiations also may be made as to the portion of the eye attacked, i. e., the iris, ciliary body, or choroid. The involved part usually is attacked repeatedly. Because the attacks recur, uveitis presents a serious problem, and requires painstaking effort and skill in diagnosis and treatment. Yet, the prognosis must be guarded. The patient must be informed of his condition and must be studied from a physical standpoint, as it is inadequate to treat him locally and not generally as well.

The etiology of chronic uveitis may be classified as follows:

Group 1.—Uveitis due to foci of infection in the tonsils, teeth, prostate, cervix, gastro-intestinal tract, gall bladder, sinuses, etc.

Group 2.—Uveitis due to low-grade general infections, tuberculosis, syphilis, and undulant fever.

Group 3.—Uveitis associated with deficiency diseases, vitamin deficiency, diabetes, hypothyroidism, and allergy. Also in this group may be included diseases associated with other faulty body function such as gout, arthritis or rheumatism, and vascular degeneration.

Group 4.—Traumatic uveitis secondary to penetrating wounds which either are accidental or surgical, or due to contusion of the eyeball. The latter need not be extremely severe.

It sometimes is possible to refer the cause of the uveitis to one of these sources, but it is never possible to dismiss the problem after a single cause has been found. The inflammation may be classified from information gained from the history and physical examination, but the final diagnosis should not be made until the results of essential laboratory procedures have been well studied.

In Group 1, the tonsils and teeth are responsible for the condition in 60 per cent of the cases. Foci of infection from the prostate or cervix rarely play a role. However, the prostate in men thirty-five years of age or over, or the genital tract in married women or women with children may sometimes be the source of the infection. Foci of infection from disturbances

in the gastro-intestinal tract include those from infectious processes, and those from associated deficiency diseases.

Tuberculosis is the responsible factor in the largest number of cases in Group 2. It is a frequent etiological factor either because of a rare invasion of or because of an allergic sensitivity to the organism. Low-grade recurring attacks must be treated carefully over a long period of time. Syphilis is a relatively uncommon cause, but occurs with sufficient frequency to warrant a routine examination of the blood. Undulant fever is a recently discovered factor and is responsible for the disease much more commonly than was heretofore suspected. In approximately 125 cases of undulant fever, seven had the chronic uveal type of eye involvement.

In Group 3, the most common etiological factor is arthritis, or rheumatism, when the history and physical findings are positive for arthritis and no other cause is found. Parathyroid tetany and hypometabolism are factors in low-grade uveitis, as indicated by the formation of cataracts associated with anterior uveitis. Cases with a previous history of thyroid disturbances which necessitated surgery must be suspected of metabolic disturbances until proved normal. Mild and severe diabetes may be associated with disease of the uveal tract, and also must be studied and treated carefully. Sometimes associated with vascular disease is a low-grade degeneration of the uveal tract, probably caused by a local anemia, edema, or recurring hemorrhages. No other cause may be found and, although the progress is very slow, severe vitreous degeneration may result in much loss of vision. Some cases of retinal detachment probably belong in this group.

Frequently, there may be several causes for the uveitis. In an individual with more than one source of infection each source must be considered and treated in its relative importance. This is especially true in the acute fulminating types of uveitis in which time is an important factor. In low-grade chronic insidious uveitis, more time can be taken to remove the various sources of infection, and to watch the results of general therapy.

In the Group 4 cases, trauma, either penetrating or the product of severe contusion to the eye, may cause a progressive chronic type of uveitis which will destroy not only the sight of the eye involved, but also that of the other eye. An eye still retaining a foreign body from a penetrating wound must be under constant observation, and at the first sign of degeneration of the opposite eye, the offending eye must be removed, although in some instances it may be too late. Sometimes it is possible to treat those secondary to contusion and retain the globe, although cases have been seen in which the contusion has resulted in chronic degeneration of the globe, with the possibility of the production of a sympathetic ophthalmia.

To the accidental cases must be added cases of post-surgical uveitis. In every instance in which the iris or ciliary body is involved in surgery, there is a possibility of producing low-grade uveitis. This is especially true in cataract surgery if the base of the iris is partially incarcerated in the wound. Gradual degeneration of the globe may take place over a long period of time post-surgically, and the only possible cause is the surgical procedure itself. Fortunately these cases are rare, but this possibility must be kept in mind.

In treating uveitis, the local lesion first must be adequately treated and watched constantly for any change in the appearance or the type of inflammation. For example, a low-grade chronic iritis sometimes flares up suddenly and produces a severe secondary glaucoma which must be treated immediately. Local treatment is important only for maintaining the integrity of the eye. It is extremely important to treat these patients generally and to bring them to the best state of health possible. In many instances radical, aggressive procedures are essential to stop the progress of the eye lesions, as procrastination usually results in the loss of vision or the loss of an eye.

We have secured excellent results in many cases with the cooperation of the Department of Medicine. In order to trace the infection to its source, complete examinations are necessary. The amount of free hydrochloric acid in the stomach is determined by gastric analysis; roentgen examinations of the gastro-intestinal tract show the condition of the colon and determine the possibility of infection or disturbing pathology; stool examinations are made to determine the presence of any low-grade bacterial or parasitic infection in the gastro-intestinal tract. In the medical department, the patients are treated as the results of the examination indicate. The absence of free hydrochloric acid in the stomach may necessitate giving the patient hydrochloric acid with the addition of vitamins A and B, and the regulation of the diet. In certain cases, some patients have a habit of taking either a daily cathartic or an enema. This detrimental procedure may be a secondary factor and must be discontinued.

General physical factors are more important than local areas of infection. As a rule most patients have all foci of infection removed but the local condition in the eye persists. In this event, it is necessary to find some general condition to account for the recurring disease. From the gastro-intestinal point of view, it is essential to regulate the diet and the bowels, and to minimize the amount of alcohol intake. In order to retain and maintain normal weight, the caloric intake is regulated. It may be necessary to hospitalize some of these cases in order to institute proper treatment. While in the hospital, any infection in the teeth, tonsils and other similar sources should be removed. In addition to general medical treatment, local lesions in the eyes must be constantly watched for and

treated. One of our patients had a chronic osteomyelitis which was the source of the infection in the eyes. The osteomyelitis was treated successfully, but because of the condition of the eyes, local treatment was necessary over a long period of time.

In some cases of chronic rheumatism, it is necessary to hospitalize the patient and give a course of typhoid vaccine therapy. The attacks may be controlled, although in some instances a minor attack which is not as prolonged or as severe as the first attack recurs at a later date. Sometimes the recurrences gradually subside and disappear. However, in conjunction with typhoid therapy, such patients must be given general management and should be taught to care for themselves.

In the more chronic group of infections, such as tuberculosis, the patient must be treated from a general standpoint and, whenever possible, be given a long course of old tuberculin therapy. This therapy, with rest and a high vitamin diet, gives the best end result.

Patients with syphilis usually require careful and prolonged treatment and, as a rule, can be given a better prognosis than those with tuberculosis. In indulant fever, a recently discovered cause of uveitis, treatment is not as successful as in either tuberculosis or syphilis. Even though vaccine treatment may be used, the progress of the lesion is not halted as easily as in tuberculosis, and destruction of the eye appears to be greater than in either tuberculosis or syphilis.

Local treatment of the uveitis depends upon the part of the eye affected. It may be necessary to alternate the use of atropine with eserine, especially where there is degeneration of the pigment, as the tension of the eye tends to rise and routine treatment cannot be followed in all cases. Treatment must be prolonged and the individual may develop an idiosyncrasy to the drug, and other substances must be used to offset the local irritation. Fair consideration must be given to the drug used. It is extremely important to instruct the patients not to use more drops than are necessary. The excess drug may cause severe local irritation of the skin of the face, which will necessitate discontinuing its use. This is especially true following the use of atropine which is the best drug to use in treating iritis. Instead of atropine, it may be necessary to use scopolamine and, in some instances, duboisine. In cases with an increased intra-ocular tension, eserine may be required. For patients who have a sensitivity to eserine or when much local irritation should be avoided, pilocarpine or a combination of pilocarpine and eserine may be used.

It is extremely important to prevent the formation of synechia which may be the forerunner of a secondary glaucoma. A large number of cases have had either a transitory attack of glaucoma or a secondary glaucoma as a result of the uveitis. In any case of uveitis with a transitory stage or secondary glaucoma, especially when there is degeneration

of the pigment of the iris or a low-grade exudative process, the use of local heat in the form of hot compresses and deep heat in the form of diathermy is of benefit to some of these patients. If there is deep-seated inflammation, heat treatment not only makes the patient more comfortable, but also aids the healing process.

The excessive use of tobacco must be restricted, and regulation of the daily bowel and rest habits may be necessary in order to secure the best possible general result. The eyes must be used very guardedly, especially during attacks. No attempt should be made to minimize the seriousness of any form of uveitis. It is one of the most serious diseases encountered in ophthalmology and produces more blindness than all other diseases, including primary glaucoma, and it is frequently the forerunner of secondary glaucoma. If not intensely and directly treated with good judgment, the loss of vision in one or both eyes may be the end result.

Summary

1. Uveitis usually is due to multiple causes.

2. Foci of infection should be removed in the order of their importance in the etiology of this condition.

3. The general condition of the patient is of prime importance and general measures should be instituted at once to bring the patient to the best state of health possible.

4. Hospitalization may be required in certain cases in which a course of typhoid vaccine therapy or diathermy to the orbit is necessary.

5. Adequate local treatment should be given. During the attack, atropine, eserine, or surgery may be necessary. The use of vaccine, such as old tuberculin or undulant fever vaccine, is necessary in some instances and must be continued over a long period of time.

6. Uveitis is one of the most devastating of all ocular diseases. A guarded prognosis must be given. The best results are obtained only after adequate and aggressive local and general treatment has been carried out.