worked out. One of them, published by Almeida, exhibited a spherical organism with spores budding off from the outside of the capsule, and yet distinct from the conventional forms of blastomyces.

Fig. 2 is a photograph of the original California patient, 1893.

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WILLIAM J. KERR, M. D. (University of California Medical School, San Francisco).—This excellent paper emphasizes the frequency of the disease in the San Joaquin Valley, and suggests the probable source of the infection in the soil. In our State, where we are coccidioides-minded, the disease is frequently and justly suspected. However, the diagnosis is still missed when cutaneous or pulmonary symptoms exist alone, or where the meninges are affected. In some cases the double contoured sporulating bodies in the spinal fluid may be mistaken for red or white blood cells when the examiner does not take into account the large size of the objects. We have had some difficulty in demonstrating the organisms in the discharges when tissue from the wall of the sinus showed them in stained sections. The use of tartar emetic should be advised during the early stage of pulmonary involvement. We have tried vaccines, but without any striking success. Drainage of the abscesses may give temporary relief of symptoms, but at present the outcome is quite hopeless when there is dissemination of the infection.

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DOCTOR SORSKY (Closing). — The authors desire to express their appreciation to Doctors Rixford, Meyer, and Kerr for the very interesting discussion they have added to this paper.

HYPERTENSION ASSOCIATED WITH UVEITIS*

By MORIE FREDERICK WEYMANN,† M. D.
Los Angeles

DISCUSSION *by William A. Boyce, M.D., Los Angeles; C. Allen Dickey, M.D., San Francisco; Helen E. Preston, M.D., Los Angeles.*

THIS rather informal discussion will deal mainly with a summation of personal experience in the treatment of the topic under discussion, rather than give an exhaustive survey of what has already been written. The experience and criticism of those who have used similar or other methods of treatment are to be courted for the purpose of sifting out the best measures possible in the care of this condition.

THE TERM "CHRONIC UVEITIS"

The term "chronic uveitis" is used here in the sense of a mild chronic inflammation of the anterior uveal tissues—that is, the iris and ciliary body. In early stages the subjective symptoms may be so slight as to be scarcely noticeable. There is little conjunctival or ciliary injection; there is discomfort rather than pain, and the first symptoms may be only a slight blurring of vision. The etiologic factors underlying the type of uveitis which may be accompanied by hypertension come, for the most part, under the heading of tuberculosis, syphilis, and the focal infections.

It is not uncommon to find that an eye affected with chronic uveitis and secondary hypertension carries the diagnosis of chronic simple glaucoma. This error occurs because the quietness of the inflammation gives a lack of those signs commonly associated with iritis. The one certain method of making a proper diagnosis in these cases is the use of the biomicroscope. It is wise to examine the posterior surface of the cornea and the contents of the aqueous with this instrument in all cases of increased intra-ocular tension, and particularly in younger individuals.

Where a chronic uveitis exists in its very early stages, one finds an increased aqueous flare, a few cells, which are lymphocytes, slowly moving in the convection current of the aqueous, and often a slight edema of the endothelium of the cornea. These lymphocytes appear as white shining points in the beam of the slit-lamp, and should not be confused with the golden-brown pigment cells which are often a normal senile finding, or which appear in the later healing stages of uveitis. As the process progresses, these inflammatory cells become more numerous and begin to settle out as precipitates on the posterior surface of the cornea in the familiar lower triangular segment. These early precipitates have a white, somewhat fatty appearance, but later become flecked with pigment as the pigment cells migrate into the aqueous and also settle out. As healing takes place, the whitish portion of the precipitates absorb during the same period that the lymphocytes disappear from the aqueous. At this stage numerous pigment cells are still present in the aqueous and may not vanish for many months.

WHEN HYPERTENSION APPEARS IN CHRONIC UVEITIS

It is usually during the early stage of a chronic uveitis that one encounters hypertension. The pupil is somewhat wider than normal, and not spastic as in acute or subacute iritis. In the lighter cases the pupil is active to light and there is not much tendency toward posterior synechia formation; although where the infiltration becomes more severe and cells in the aqueous more numerous, posterior synechia may tend to form.

With the diagnosis of hypertension and chronic uveitis established by means of the biomicroscope and tonometer, it becomes necessary to determine the etiologic factor of the uveitis. In younger individuals tuberculosis should always be first considered. After a patient has had a general physical examination to make certain there are no active pulmonary foci, and for the purpose of locating any other foci of infection, diagnostic tuberculin tests are made with Koch's old tuberculin. From the physical findings, the Wassermann test and tuberculin test was gained an idea as to the underlying etiologic factor in about 80 per cent of cases. In the others empirical measures must be resorted to as described later.

LOCAL TREATMENT

The local treatment must be directed at control of the hypertension without, if possible, increasing the severity of the uveitis. If the uveitis is

* From the Department of Ophthalmology, University of Southern California Medical School.
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† Dr. Morie F. Weymann died on January 13, 1935.

sufficiently severe to provoke the formation of posterior synechia, it is necessary to dilate the pupil to prevent this development. Glaucosan and the stronger solutions of adrenalin are no longer used by me because of their severe reaction, and because the following procedures have been found satisfactory. A few drops of adrenalin placed on a piece of cotton and tucked into the upper fornix, after anesthetization with holocain or butyn, will produce a dilatation of the pupil and a diminution in tension which will last from several hours to one day. This is the method described by Gradle. The dilatation thus produced is sufficient to break posterior synechia. As an alternative method the placing of an ophthalmic disk of "Epinin," a Burroughs and Wellcome synthetic suprarenalin, in the conjunctival sac will be found efficacious in dilating the pupil and reducing the tension. These tabloids contain seven and one-half milligrams of the active drug. It has not been advisable to keep the pupil permanently dilated with homatropin or atropin, because of the great tendency in these eyes toward the formation in the angle of anterior synechia when the pupil is widely dilated. When this occurs the eye is usually lost through a gradual increase in tension which responds to no treatment. As the tension subsides, a 2 per cent solution of euphthalmin, used three times daily, will control a tendency toward synechia formation without dilating the pupil sufficiently wide to allow anterior synechia formation to take place.

If the tension is not lessened by the adrenalin packs or epinin disks, one should not hesitate to use repeated paracentesis of the anterior chamber for this purpose. In addition to mechanically lowering the tension, paracentesis favors healing by permitting fresh proteolytic substances to enter the anterior chamber from the blood stream to hasten resolution of the cells and precipitates present there. Early iridectomy is indicated even in the face of an active uveitis, if both paracentesis and the adrenalin do not control the hypertension and produce a favorable turn in the progress of the disease. Many eyes are undoubtedly lost because iridectomy is postponed too long. Certain of the French writers have suggested trephining as a more satisfactory and more permanent method of lowering the tension, but I have found iridectomy adequate in my cases.

The application of dry heat in ten-minute periods, from three to six times a day, has been of marked benefit. This can easily be done by having the patient hold a 40-watt light globe attached to an extension cord close to the affected eye, which is protected from the light by a piece of flannel. The altherm eye-pad which has recently been described, and which furnishes heat by the change of its contents from a fluid to a crystalline state, should also serve this purpose. It is obtained from Meyrowitz in New York. Where other measures fail, or as an adjuvant, a 20 per cent erythema dose of x-ray, particularly in the tuberculous type of uveitis, may have a beneficial effect upon the tension and the uveitis. It should only be repeated at from three- to six-week intervals.

GENERAL TREATMENT

So far as getting a permanent cure of the uveitis which is causing the hypertension is concerned, the general measures are of even greater importance than the local ones. The general hygiene of the patient should be carefully regulated. Sufficient food should be taken so as not to permit a loss in weight. If necessary, a glass of half milk and half cream should be added to the diet between meals. Any tendency toward constipation should be eliminated. The importance of a full night's rest should be emphasized, and a two-hour rest period in the reclining position every afternoon is of advantage. Where tuberculosis is the cause of the uveitis, tuberculin therapy has proved of benefit. The empirical use of ten grains of sodium salicylate three times daily after meals is worth while, for in many cases it seems to help. Naturally foci of infection should be eliminated, but if the hypertension is being controlled by other measures it is better not to disturb active foci of infection until the eye is quiet. Foreign proteins which produce a violent reaction have been found detrimental in many cases, but nonirritating stimulants to leukocytosis such as omnadin (Metz) have been used with benefit.

IN CONCLUSION

From the above it may be seen that to treat the hypertension, one must also treat the uveitis. Therefore it has been impossible to avoid digression at times into the field of uveitis, to the apparent neglect of the subject under discussion, hypertension. The two points which need most to be emphasized are the avoidance of overlooking the existence of a chronic uveitis, where hypertension exists, in order not to make the erroneous diagnosis of chronic simple glaucoma; and the avoidance of delay in resorting to operative procedure, such as paracentesis or iridectomy, when other measures fail to control the hypertension.

2007 Wilshire Boulevard.

DISCUSSION

WILLIAM A. BOYCE, M.D. (1210 Roosevelt Building, Los Angeles).—Doctor Weymann has given us a very excellent presentation of chronic uveitis with hypertension. While he urges a thorough examination to find the focus of infection, if possible, he further states that if the hypertension is being controlled with other measures, it is better not to disturb the active focus of infection until the eye is quiet. In this I disagree, as I feel it is best to remove this focus as soon as possible, since frequently this is all that is necessary.

It may be quite true that a great many of these are due to tuberculosis, but it is very hard to demonstrate that they are. I often wonder, in the administration of tuberculin in these cases, whether or not you get the specific effect from the tuberculin or if you get the foreign protein effect.

In the measures to correct the hypertension I also disagree with Doctor Weymann regarding the iridectomy. Personally I have had very few good results from an iridectomy in cases of this kind and, in fact, it is seldom that any one operation will suffice. I would much prefer a trephine, repeated if necessary, which is frequently the case; or to do a trephine as the first operation and if this isn't successful, to do a cyclodialysis. Both the trephine and the cyclodialysis can be repeated several times.

I do not know of any condition about the eye that is more unsatisfactory to treat than this type of uveitis.

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C. ALLEN DICKEY, M.D. (450 Sutter Street, San Francisco).—There are few diseases so disconcerting to the oculist as uveitis with hypertension. Fortunately, this is not a very common condition.

As an aid in the diagnosis I would like to emphasize the importance of taking the tension with a tonometer repeatedly, and of a thorough slit-lamp examination. In many cases the etiology is obscure, as it is difficult to evaluate one's findings; for example, a questionable positive tuberculin and also evidence of focal infection. Tuberculin therapy has been rather unsatisfactory in our experience, although we have not used the newer forms of tuberculin M A 100 and the A. O. vaccine.

I would like to mention two cases in which the treatment differed. In the first we attempted to control the disease with alternate constriction and dilatation of the pupil, using pilocarpin and suprarenin. However, synechiae formed and we had some difficulty in breaking these. The condition continued in spite of all therapy, both local and general.

In the second case, after the usual treatment had failed, we elected to do an iridectomy; and following this the patient has had only one temporary increase in tension, and the uveitis has subsided, with constant dilatation of the pupil.

While the lesser of two evils appears at first to temporize with medical treatment, I feel that rather thorough dilatation of the pupil is advisable; and if the hypertension continues in spite of the usual treatment, including paracentesis, then an iridectomy is the procedure of choice.

Doctor Weymann is to be congratulated on his presentation of this subject.

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HELEN E. PRESTON, M.D. (1136 West Sixth Street, Los Angeles).—We are indebted to Doctor Weymann for clarifying the methods of diagnosis and treatment of a condition which may well be extremely puzzling. It has been my privilege to observe and study a number of cases such as he describes, at the Los Angeles County Hospital, treated by a variety of methods.

It may be of interest to present here a case whose management resulted in an entirely satisfactory conclusion. It was difficult to distinguish between a chronic or subacute primary glaucoma, and the hypertension secondary to a uveitis, which we are considering here. A slight blurriness of vision, excess lacrimation, and mild achiness had existed for six months. A very mild conjunctival hyperemia was present. The pupil was slightly larger than the unaffected eye, but reacted to light. The tension was 44 millimeters. hg. (Schiotz), and, most important of all, there were pigment deposits on the anterior lens capsule.

Miotics did no good in reducing the tension, whereas the use of adrenalin, either by pledget or by subconjunctival injection (3 minims), and of homatropin, was able to control it fairly well for a number of weeks. A field defect was beginning, and so operation was decided upon. A cyclodialysis was performed in January, 1934, by Professor Anton Elschnig, during his demonstration clinic in Los Angeles. The eye has been perfectly quiet since, with normal tension and normal vision.

Of course conclusions cannot be drawn from the outcome of a single case, but I feel that this procedure, if the full details of the Elschnig technique are observed, is a valuable one. Unless the inflammatory character of the disease is very pronounced, I do not believe that the trauma to the ciliary body is severe enough to make trouble. It is not meant to suggest this as a complete substitute for iridectomy, paracentesis, or trephine, but as a companion to these procedures, among which a choice is to be made.

COMPULSORY HEALTH INSURANCE*

By FREDERICK L. HOFFMAN, LL.D.
Philadelphia, Pa.

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THE available evidence is overwhelming that the effect of compulsory health insurance on the German medical profession has been little short of disastrous. The literature on the question, mostly in the German language, is as impressive as it is often pathetic in its pessimism regarding the outlook for far-reaching reforms. As has been well said in an article in *Science* of October 12, 1934: "The medical profession in Germany has fallen into disrepute." . . . and "If present conditions are allowed to continue much longer, medicine will sink into a bog of absolute inefficiency."

THE TRAGIC ASPECT OF PANEL PRACTICE

In an extended article on the admission of physicians to panel-practice, by the Berlin correspondent of the American Medical Association (*The Journal of the American Medical Association,* August 16, 1934), the tragic aspects of the present situation are painted in gloomy colors. The profession is no longer free and independent, but the football of politics and political regimentation. Truly Bismarck was right when, in 1883, he observed that the establishment of compulsory health insurance was a step in the dark, and since then no modern Moses has been forthcoming to lead the bewildered profession into realms of security and undisturbed scientific advances typical of the golden days of freedom.

REASONS FOR THE IMPROVEMENT IN MEDICAL CARE IN GERMANY

Unquestionably, the situation as regards the medical care of the German people in the early eighties was deplorable, but so it was in every other highly industrial and highly urbanized country the world over. The death rate in most countries fifty years ago was between 25 and 30 per 1,000. A frightful toll was exacted by fatal epidemic diseases which, since that time, thanks to the progress of medicine and social well-being, has been reduced to negligible proportions in all but a few large and essentially primitive areas.

LATEST GERMAN STATISTICS ON COMPULSORY SICKNESS INSURANCE

The latest available figures for compulsory health insurance in Germany are for 1931. During that year the total membership in compulsory sick funds was 20,616,000, and these persons experienced 7,497,000 cases of sickness, representing 213,437,000 days of sickness. The total income of the funds was 1,607,834,000 marks, while the total outgo is given in the following table:

* One of a series of articles on compulsory sickness insurance written for CALIFORNIA AND WESTERN MEDICINE by the well-known consulting statistician, Frederick L. Hoffman, LL.D. Articles in this series were printed in previous issues as follows: I, in April, page 245; II, in May, page 361; III, in June, page 411; IV, in July, page 33; V, in August, page 114; VI, in September, page 177; VII, in October, page 262; VIII, in November, page 323; IX, in December, page 398.