INJECTION OF OILY SOLUTION OF IODIN FOR GLAUCOMA.

RICHARD KERRY, M.D.,

MONTREAL, CANADA.

Five cases are here reported in which this new procedure was used with apparently very good results. The author had previously employed it successfully in iritis.

The similarity in the acute symptoms of septic iritis and glaucoma, if one excepts the purely mechanical effects in the latter disease; and the fact that pain in iritis is so promptly relieved by iodine, have led the writer to use this drug in some recent cases of glaucoma. The results have proved most interesting, and it seems probable that further experience will demonstrate that we have in iodine a very valuable adjunct to the measures at present employed in treating this disease. In the following cases the relief from pain and abatement of symptoms were very prompt and marked.

CASE 1. A woman of forty odd years. Left eye absolute glaucoma, right seriously impaired, was trephined some years ago with good result. Three years later she came with an acute attack, complaining of pain and loss of vision. The eye was hard, showing ciliary injection and cloudy media, apparently more from round cell infiltration than edema. She was given an injection of iodine, and all signs and symptoms disappeared promptly, only to return again in two weeks in greater severity. Another injection was given and the extraction of some roots from the jaw ordered. The symptoms disappeared as before, and did not recur at the time. Two years or so later another attack came on, while the writer was absent from the city, an iridectomy was done with unfortunate result and the sight lost.

CASE 2. Woman forty years. Had subacute glaucoma for a month with the classical signs and symptoms; after some preliminary treatment, she was given iodine, and shortly afterwards consulted another oculist who denied the diagnosis. As both my confrere and myself are capable of diagnosing glaucoma with the usual signs, it is evident that the symptoms had disappeared before the consultant saw the case.

CASE 3. Woman 35 years old. Had acute glaucoma in both eyes, the symptoms were severe and the inability to use the eye distressing. Vision 6/36 to 6/24. She was given iodine once a week for a month, and was then able to use her eyes quite comfortably, vision having returned to normal. Extensive gingivitis was treated and later two alveolar abscesses were evacuated, but the acute symptoms had disappeared before the teeth had been attended to. Recent reports nearly a year later, do not indicate any recurrence.

CASE 4. Man 60 years old. Right eye had iridectomy done, a week before the writer was asked to see the case, owing to the left eye having become affected. The patient was suffering severely, and was not relieved by the morphin which had been given. He was sent to hospital, for operation next morning, and was given iodine. He passed a comfortable night and in the morning the eye was practically painless. A trephine operation was done and there was no complaint of pain afterwards and but little reaction from the operation, vision in the left eye becoming normal in a few weeks time. Eserin was prescribed by the patient's physician during the last attack, and four days after the acute symptoms had subsided the condition was as follows:

Right eye sensitive, moderate congestion to nasal side, anterior chamber very shallow, pupil half dilated, immobile; apparently displaced upward owing to retraction being greater above than below. At eight o'clock were one or two pigment spots, one of which was within the pupil. The fundus was somewhat congested, no depression of discs, no gross change in the fields, tension not raised, vision 6/6 with + 6.5. J. 1. with + 10, better with + 11.

This case would seemingly correspond to Parker's type of glaucoma in-

volving the posterior lymphatics (A. J. O. v. 2, p. 628), but the presence of recent posterior synechiae and a dilated immobile pupil suggests both glaucoma and iritis. Examination three days after iodine had been given showed disappearance of subjective symptoms and of the congestion. The pupil was still immobile, but displacement was not quite so great. Three days after the second dose there was active contraction of the lower part of the pupil on stimulation by light, the upper part being still immobile, with an angle in the margin at eleven o'clock, due to dilatation limited to this one point. A week later the pupil was nearly in normal position, somewhat oval in shape, greatest dilatation at eleven o'clock (but no angular kink as previously). From about ten to two o'clock it was still immobile. The eyeball was still soft and there were no subjective symptoms present.

Eserin causes only moderate contraction of the pupil, the paralysed section remaining inactive. But since the margin as a whole has contracted the condition is evidently not due to hidden synechiae.

This interesting symptom-complex exhibits in an unusual manner that most constant symptom of all forms of glaucoma, interference with the motor function in the eye, and was associated at its onset with an abscess inside the right cheek; there are no teeth or roots in the jaws. When seen recently, some three months after the onset of the attack, the pupil was normal in appearance and action.

CASE 5. Woman aged 60. Has had several attacks of severe pain in the right eye during the past few months; when examined nearly a year ago no pathologic condition was found, vision with plus 7 = R. 6/5 L. Amblyopic.

The writer's experience with iodine in iritis has convinced him that it is not unreasonable to attribute to the drug the unusual effects obtained in these cases, and while sweeping conclusions are not justified by such limited evidence there are one or two practical points suggested by these results which are worth considering in

connection with glaucoma.

Iodine acts by stimulating leucocytic activity to a marked degree and thus tends to disperse inflammatory foci. So powerful indeed is its action in this respect that in the presence of gross lesions, such for instance as pulmonary cavity, acute toxemia is induced, which may end fatally.

Schnabel's observation that artificially induced arterial pulsation in the eyeball is accompanied by emptying of the veins and paling of the disc, while in glaucoma pulsation coexists with venous engorgement and a congested disc, is conclusive evidence of interference with the venous outflow from the eyeball.

The many pathologic reports published, showing alteration in the veins with blocking of both veins and lymphatics by round cells and debris furnish further evidence of this interference, which, by causing hypertension in the eyeball, compresses the outlet of the veins still more, thus establishing a vicious circle.

If now, we can by stimulating leucocytosis restore the circulation and remove the causes of stasis, and this appears to have occurred in the cases reported, we shall have practical proof of the importance of the vascular factor in causing glaucoma.

It would thus seem that the chemical and physical changes upon which Fischer lays stress are secondary to, rather than a cause of circulatory disturbance. These cases indicate also that the vascular change is due to sepsis, but further work is required to establish the rôle of the infective agent both in glaucoma and iritis, more especially in chronic glaucoma in which evidence of stasis is lacking.

In practise, the relief from pain following the use of iodine in inflammatory cases and the fact that its employment in conjunction with Elliot's operation minimizes postoperative reaction, and any tendency to closing of the trephine opening by exudate, strongly favors the adoption of this simple procedure, which in no way contraindicates ordinary methods.

If we can depend upon obtaining results such as those given above, we shall, in doubtful cases, cause arrest of the disease and disappearance of the symptoms, even while we are arguing about the diagnosis. While in severe cases iodine will enhance the result of operation and afford great relief to the patient.

Ten to fifteen minims of a one in forty solution of iodine in Sesame oil, was injected once a week under the skin with a hypodermic syringe. Judging from the strength and dose of several preparations on the market, the dose used in these cases can be increased considerably without harm resulting, possibly with benefit. Massive dosage in sepsis is recommended

by the owners of our proprietary preparation. Failing Sesame oil which is at present difficult to obtain, almond or almost any bland fixed oil can be substituted.

When is glaucoma not glaucoma? The paraphrase is certainly suggested by these cases, which, altho differing in type are obviously all related. It is far more practical in a given case, to remove disease than to demonstrate that it belongs to established type, and should be labelled accordingly. The facts above recorded indicate the direction in which we may reasonably look for further progress in treating this often intractable disease, and the case of a well known statesman whose loss of sight is stated to be due to alveolar abscess adds point to this observation.

THE ORGANIZATION AND ACTIVITIES OF THE OPHTHALMIC SERVICE IN THE AMERICAN ARMY OF OCCUPATION

RALPH A. FENTON, M.D.,

PORTLAND, OREGON.

This is a supplement to the paper of Col. Greenwood published last year, *A. J. O.*, v. 2, p. 565, Major Fenton having been ophthalmic consultant for the Army of Occupation. The two papers constitute an authoritative history of the ophthalmic service in the American Expeditionary Forces. Authority to publish granted, Board of Publication, S. G. O.

Suggestions from Colonel Black to Colonel Greenwood regarding eye service in the Army of Occupation, as published in Col. Greenwood's report (*A. J. O.* v. 2, p. 583), were necessarily modified by direction of the Chief Surgeon, Colonel J. W. Grissinger, M. C., to meet conditions found on arrival in Germany. The assignment of a combined ophthalmologist and otolaryngologist to each division, with use of a field hospital in each division for mild eye cases, was never done because of lack of personnel and equipment, as well as accessibility of evacuation hospitals to divisional areas. The other suggestions, of centers for eye work in Treves and Coblenz, with auxiliary optical units for supply of glasses, were fully carried out; and the Chief Surgeon was ready at all times to facilitate in every way the elaboration of clinical equipment and the provision of highly qualified personnel. Colonel

Black's valuable counsel was available from Luxemburg on into Coblenz, during December, 1918, and again for a few days at the end of January, 1919.

During the American advance from Ligny-en-Barrois, November, 1918, thru the devastated region above Verdun and across Luxemburg, there was little special work, except for occasional cases of injury to children and other civilians from abandoned German grenades or other munitions. Several cases of this type were seen in a field hospital at Longwy, and were turned over to French authorities as the troops moved forward. Other civil cases, left by the Germans practically without medical supplies, were in charge of French sisters in a convent hospital at Longuyon, the first field headquarters. Supplies were furnished them and an army hospital worked with them for a time. While headquarters were here and at Luxemburg,