I.—FOCAL INFECTIONS

de Schweinitz, Dr. G. E.—Concerning certain ocular interpretations of focal infections, exclusive of those types which are commonly attributed to this etiologic feature, being a clinical study. An Address delivered before the Société française d’Ophtalmologie, May, 1924.

We are enabled to give our readers an account of this important paper by Dr. de Schweinitz, last year’s Bowman lecturer, through the courtesy of Dr. Onfray, the Secretary of the Société française d’Ophtalmologie, who has lent us the original manuscript before publication in the Transactions.

de Schweinitz introduced his subject, after a brief historical survey, by a statement of certain principles underlying focal infections in general.

“1. Metastatic and often recurrent infections may result from chronic local infections, and their removal (i.e., the focal infections) is frequently, but not invariably, followed by disappearance of the metastatic lesions and of the recurrences.

“2. It is assumed that bacteria cause the primary lesions, although it has not been possible thus far to demonstrate a complete mechanism for each organism. (E. V. L. Brown has succinctly thus stated the facts in question: bacteremia has necessarily been only assumed in many cases, and yet bacteria should be demonstrable in the blood-stream if the evidence in the case shall be unquestioned.) This unassailable evidence is difficult, perhaps impossible, to obtain, because only a few organisms are present in the blood at a given time; if it were otherwise a condition of sepsis would develop.

“3. Animal experimentation has demonstrated that cultures from an infected area (focal infection) injected intravenously may produce a metastatic inflammation, a culture from which in its turn injected into the veins of other animals will create an identical lesion, the evidence in this respect being especially clear in abscessed teeth and iritis. But naturally the entrance of micro-organisms into the blood-stream does not imply that metastatic lesions will arise, because the bacteria may be destroyed in the blood-stream, but only that they may become active in the production of such lesions if resistance to infection is depressed.

“4. The selective tissue affinity of certain bacteria, i.e., elective localization, is a theory which rests in the opinion of many expert bacteriologists upon a satisfactory foundation, and may thus be stated: a focal infection being present, bacteria may find favourable
opportunities for growth, multiplication, and entrance into the lymphatic streams, not only by means of ulceration, but possibly by being carried in by migratory leucocytes acting as phagocytes. Having gained access to the blood-streams they may be able to withstand the bactericidal action of the blood-streams by reason of the reduction in the resistance of the blood due to the primary infection. Subsequently they may locate in certain tissues, for instance, ocular tissue, either because they have developed a special affinity for these parts and find conditions favourable for their growth, or because the resistance of these parts is reduced by some other agency, and thereby favours the localization of the germ.

"5. Bacteria coming from the primary lesion (focal infection) which is suppurative may cause a non-suppurative metastatic inflammation because in their contact with the blood serum their virulence is decreased; they may be found in the environment of the affected lesion, for example, staphylococcus, etc., in the aqueous humor in focal iritis; or in the substance of inflamed tissue (for instance, streptococci in the iris); or they may be absent, having been destroyed by the virulence of the inflammation which they have produced. Whether these forms of metastatic inflammation are ever produced by circulating bacterial toxins instead of the bacterial element itself is still in controversy. Although no one has proved that circulating bacterial toxins do not exist, which may find tissue elements for which they possess a specific combining affinity, it is highly probable, in most circumstances, that in bacterial infections, the germs themselves are present rather than their products as toxins and endotoxins, produced in a distant focus.

"6. The elimination of one focus of infection does not imply that the source of the metastatic inflammation has been removed; the foci may be multiple. A recurrence of the inflammation may be due to a bacterial invasion from an area of infection not previously discovered.

"7. After removal of a local infection, the improvement in the metastatic infection, presumably due to it, may be slowly progressive, or it may take place rapidly, and in a few hours the whole progress may disappear, moreover permanently. Such rapid results are probably similar to those which occasionally follow intravenous injections of foreign proteins, and, like them, are probably non-specific.

"8. Many varieties of pathogenic bacteria have been accused with respect to the ocular effects of focal infection—the staphylococcus, the streptococcus, the pneumococcus, the colon bacillus, and the streptococcus viridans, etc. It is possible that future investigations shall establish a definite relationship of certain bacteria, or bacterial strains, to definite lesions, for instance, the streptococcus viridans of dental sepsis to one variety of focal iritis.
FOCAL INFECTIONS

"9. Local or focal infections may be found in various structures of the body, common situations being the teeth, the tonsils, the paranasal sinuses, the intestines, the posterior urethra and prostate, the seminal vesicles, and the pelvic organs in woman; less common ones are the upper respiratory tract, the tissues in the hila of the lungs, the gall-bladder, the appendix and the skin (boils etc.), but it is impossible to define the favorite port from which the invading bacteria enter the blood-stream.

"10. It is possible, even probable, that in certain circumstances a chronic local infection may be responsible, not directly for a metastatic inflammation, but for a disorder (sclerosis, endovasculitis) of the small-vessel supply of a defined area of tissue, which in turn determines degeneration of the part thus deprived of its nutritive supply. It is difficult to escape the conviction that in these circumstances the circulations of toxins may be active.

"11. Removal of one area of focal infection, followed by improvement in, or cure of, a distant tissue-lesion does not prove that chronic local infection was the source of the bacteria or toxin which caused the metastasis; it may have been due to an undiscovered focus, or to another factor. It is clearly necessary to exercise balanced judgment and avoid indiscriminate accusation of focal infections, particularly as this relates to oral sepsis."

The author then went on to discuss the possible connection of focal infections with: 1. Senile macular changes. 2. Axial (retrobulbar) neuritis and multiple sclerosis. 3. Toxic ambyopia. 4. Intraocular optic nerve inflammation and oedema (optic neuritis) and choked disc; orbital optic neuritis (retrobulbar or axial neuritis). 5. Certain forms of keratitis and kerato-iritis in relation to infection (non-venereal) of the bladder and prostate. He illustrated his points on these subjects by numerous case histories and charts of visual fields, from his own experience, and drew the following conclusions:—

"1. An etiologic relationship, in some cases, between focal infection and the development of senile macular retino-choroiditis appears to exist, the toxic elements affecting first the small-vessel supply of the region attacked.

"2. Any source of focal infection may be active in these circumstances; two regions should receive especial attention, the prostate and the teeth,; also the edentate gums of the elderly subjects of this affection.

"3. Elimination of the foci of infection accomplishes the best result if it can be obtained in an early stage, that is when metamorphopsia and a central scotoma for blue are the first evidences. At a later stage, when haemorrhages begin to appear, their recurrence seems to be checked by similar treatment; but there is no evidence that the later degenerative lesions are influenced.
"4. There is some evidence that local (focal) infection is a possible, perhaps probable, etiologic factor in multiple sclerosis, ranking in this respect with the significance of various general infections, as originally suggested by Pierre Marie.

"5. Sinus infection (ethmoiditis and sphenoiditis) appears to be the most important focus in this respect when the first stage of multiple sclerosis manifests itself as an axial optic neuritis (retrobulbar neuritis), although infected tonsils and teeth cannot be disregarded.

"6. It is possible that future investigations may demonstrate a specificity of the bacterial elements in those sinus infections which originate an axial neuritis as the primary manifestations of multiple sclerosis, exactly as recent observations indicate that there is a specificity of certain micro-organisms in the etiology of other diseases of the nervous system.

"7. Although no positive proof has been uncovered that a focal, usually sinus, infection is more than a predisposing influence for the true cause or an aggravator of a disease already started by the true cause (Barker), observations are not wanting which indicate that a relationship exists which is more intimate than the sentence quoted implies.

"8. Evidence accumulates, both chemical and clinical, that there is a real relationship between intestinal sepsis and the development of the ocular manifestations of that type of toxic amblyopia usually solely ascribed to tobacco, or tobacco and alcohol combined; also toxic substances produced by bacterial decomposition in the intestinal tract are probably at times the direct cause of the continuance of the ocular symptoms when they do not disappear after alcohol and tobacco have been discontinued.

"9. Non-prominent infectious optic neuritis may not only be due to infectious diseases, but may be caused by foci of chronic infection (focal infections), notably by those in the teeth. Elaborate retrobulbar neuritis may be due to similar infections in the teeth, and moreover, in unerupted teeth. But it is doubtful if an unerupted tooth independently of surrounding infections is responsible for ocular inflammation.

"10. Non-venereal prostatic infections have a relationship to metastatic ocular inflammations far more frequently than is usually suspected, almost ranking in this respect with chronic tonsillitis.

"11. So far as the cornea is concerned, three types appear to be important: (a) keratitis presenting somewhat characteristic clinical appearances due to a colon bacillus infection in the bladder or prostate; (b) keratitis presenting the clinical signs of a neuropathic affection, but seemingly due to prostatic infection (staphylococci and streptococci), or perhaps, in one case at least, to posterior ethmoid infection; (c) relapsing uveitis associated with dense corneal
infiltration, due originally to Neisserian and luetic infection, but yielding, when specific treatment is of itself insufficient, to elimination of prostatic infection.

"12. Removal of the focal infection which is responsible for a metastatic ocular inflammation remains the accepted method of procedure, but autogenous vaccine therapy has proved its value under certain conditions, especially as they are related to prostatic and bladder infections, and possibly those resident in the sinuses

E. E. H.

II.—GLAUCOMA

(1) Cords, Richard (Cologne).—Cyclodialysis the best operation for simple glaucoma.

Gifford, H. (Omaha).—Further experience with peripheral iridotomy (Curran) and subconjunctival limbus puncture in the treatment of glaucoma.


(1) The above articles having been published simultaneously, one feels that they may be considered together, as they show the diversity of opinion existing with regard to the operative treatment of glaucoma.

Cords regards cyclodialysis as the best operation for chronic simple glaucoma, because:

1. It is easy and without danger. The author follows Gradle's technique as described in the Amer. Jl. of Ophthal., 1920, Vol. III, p. 41. Careful massage is begun the day after operation.

2. Post-operative complications are very few. No case of glaucoma malignum has yet been recorded following cyclodialysis. The lens cannot be dislocated. Infection is almost impossible if the conjunctiva and instruments are sterile. Lens opacities appear rather often after the operation, but often remain stationary. It is doubtful whether this complication occurs any more frequently than after iridectomy. The tension usually decreases on the second or third day after operation; rarely this is delayed until the 8th-10th day.

3. The influence on the tension is very satisfactory. A good reduction of tension lasting for more than six months is shown to occur in 58 per cent. of cases cited. The operation is now limited to chronic cases without inflammation. The influence on vision
and field is also good; several cases have been operated on where the scotoma has almost reached the fixation point, and it has become no larger after operation.

4. The operation may be easily repeated in the same or a different part of the eye.

5. Any other operation may be performed afterwards, and therefore, in the author's opinion, operative treatment of glaucoma simplex should always commence with a cyclodialysis.

Gifford has been performing Curran's peripheral iridotomy (described in the Arch. of Ophthal., 1920, p. 131), and finds that in a few cases the tension after operation has remained at 25, but in the great majority it has gone higher, and he feels that it is better to do something else which has a greater and more permanent effect. He suggests that it should be performed as a preliminary to a more radical operation, especially in cases where with relatively good central vision the contraction of the field on one side at least comes very near the fixation point. In about 10 per cent. of cases, peripheral iridotomy with massage and eserin will keep the tension down for a year or more. Accidents may occur, however, e.g., profuse haemorrhage into the anterior chamber and removal of a large part of the iris owing to a sudden movement by the patient. The author therefore resorts now to limbus puncture. After anaesthetizing with holocain and eserin, a needle is entered subconjunctivally 5 mm. from the limbus, and is made to enter the chamber as near as possible to the clear cornea. The needle is carried across the upper part of the anterior chamber, and the aqueous allowed to escape, both from the chamber and the subconjunctival bleb. Massage is done for 15 seconds the same evening, and is continued three times daily after. Eserin is used from the third day. The puncture may be repeated. Gifford found peripheral iridotomy of great service in two cases of glaucoma due to swelling of the lens in incipient cataract.

Luedde, after briefly reviewing the history of glaucoma operations, quotes Herbert to the effect that "absolutely the worst conceivable form of sclero-corneal wound as regards the danger of late infection is a round hole beneath the adherent limbus." He also states that such an opening is too often complicated by prolapse of uveal tissue and chronic uveitis. Luedde therefore advocates the following procedure.

Make a large thick conjunctival flap and split the cornea at the limbus for 1 or 2 mm. Introduce a narrow keratome obliquely through the cornea at the lower margin of the flap making a bevelled valve perforation not more than 2 mm. wide. This can be accomplished without loss of aqueous, the latter being allowed to escape drop by drop by touching the opening gently and repeatedly with a small spatula. When the eye has become soft
the initial opening is enlarged by introducing the rounded tip of a thin bladed pair of scissors and making a cut of about 2 mm. laterally from both the nasal and temporal angles of the original incision. The incision is thus an irregular one, bevelled in the centre and flanked on each side by a vertical cut through the corneal tissue. Such an incision does not form a firm linear scar on healing. An iridectomy is performed at the discretion of the operator. Three years observation of cases in which this operation has been performed has shown "striking example of subconjunctival fistulation, tension remaining well within normal limits and surprisingly constant and uniform." Two exceptions are noted, one when severe iridic haemorrhages occurred within 48 hours, in a man with melaena and a systolic blood pressure varying from 95 to 200 mm. within 24 hours, the other where miotics had to be used afterwards, as it was impossible to secure a good iridectomy owing to extensive posterior synechiae. The advantages claimed for the operation are the gradual reduction of tension, the permanence of the fistulation and the freedom from late infection.

Verhoeff has performed the operation of cyclectomy nine times on seven eyes, and has had good results with it. The technique is as follows: A thick conjunctival flap is made on the upper outer quadrant of the globe with its base towards the equator. When held back it should expose the sclera from a point about 1 mm. from the limbus for a distance of about 7 mm. An incision is made 5 mm. long parallel with and at a distance of 5 mm. from the limbus. It is best made with a Post knife needle and should go through half the thickness of the sclera; it is then carefully deepened until the uvea is seen. The blade of the knife is reversed, and the remaining scleral fibres cut from without by passing the point of the knife beneath them. A button-hole iridectomy is then done through a separate incision at the limbus above. A spatula is next introduced into the scleral wound to separate the ciliary body from the sclera. The protruding part of the pars plana is grasped with forceps, pulled out slightly, and excised with scissors. If vitreous presents, some of it is excised.

F. A. WILLIAMSON-NOBLE.


(6) The main points of Reese's technique are as follow: —

The conjunctiva is gripped over the insertion of the inferior rectus 6 mm. from the limbus. The patient then looks down and a special broad keratome, bent at an angle of 21 degrees, is inserted into the conjunctiva 7 mm. from the upper margin of the cornea. It is pushed forwards subconjunctivally to within 2 mm. of the limbus
where the sclera is penetrated obliquely, and the point of the instrument enters the anterior chamber. The instrument is then pushed on, the handle being turned slightly to the right, so that the right side of the blade does most of the cutting. When the entire width of the blade is in the sclera the incision measures 8 mm. On withdrawal of the keratome no aqueous is lost. The conjunctival opening is then extended at each end upwards and backwards with scissors. The iridectomy is performed in the usual manner. If it is necessary to wash out the anterior chamber it is irrigated with salt solution, half the strength of normal saline which is said to produce wrinkling of Descemet’s membrane.

In cases of non-congestive glaucoma the conjunctival flap is depressed with a pledget of cotton wool, and the anterior lip of the split scleral opening is cut off with scissors or pieces are nibbled out with a Stephenson’s or Holth’s punch.

In those cases of chronic glaucoma where the iris has become adherent to the posterior surface of the cornea at the filtering angle, the iris has to be pierced twice with the keratome point. The flap is stroked back into place and no suture is used. The first dressing is done in twenty-four hours, when atropin is instilled, and gentle massage performed. The massage is kept up for at least two weeks. The patient is allowed to sit up the morning after operation and is discharged from hospital in a week.

F. A. Williamson-Noble.


(3) This is one of a series of useful articles for general practitioners which are being contributed to the Lancet by editorial request. In the short space of three columns Foster Moore sets out the main features of primary chronic glaucoma and primary acute glaucoma. He then shortly states what may be called the ordinary present day treatment of these conditions without allowing himself to be side tracked into controversial pathways. He gives a table in which acute glaucoma and acute iritis are contrasted. Secondary glaucoma is purposely omitted altogether in this article on the ground that “the subjects of such conditions (i.e. other diseases of the eye) will mostly have been under special care for the primary disease and the possibility of the complication will have been anticipated.” We would, however, point out to the general practitioner that the difficulty of diagnosis and treatment between glaucoma and iritis is often greater than it would appear to be when only primary acute glaucoma and iritis are compared and contrasted. Glaucoma as a complication of other diseases of the eye may be a formidable difficulty.

Ernest Thomson.

This paper gives a brief outline of recent investigations on the above subject, undertaken by Emsley and Fincham, with the primary intention of elaborating practical methods of differentiation, in the Applied Optics Department of the Northampton Polytechnic Institute, London.

The authors enumerate certain phenomena known to occur when the normal eye observes a small bright light against a dark background, e.g.:

1. A black ring immediately surrounding the light, presumably the result of diffraction at the border of the pupil.
2. The ciliary corona, narrow streaks radiating out from the light in all directions, and showing the spectral colours.
3. A coloured ring around the light, showing a gradation of colours, from violet nearest the light to red outside.

(2) and (3) have been ascribed by some observers to diffraction caused by the fibrous structure of the lens acting as a radial grating.

The halos seen by glaucomatous eyes, on the other hand, have been most generally ascribed to the formation, following the increased intraocular tension, of oedematous globules in the anterior layers of the cornea.

The authors' conclusions in regard to differentiation, based on their own observations, are:

1. That the glaucoma halo is much brighter than the normal one.
2. That the "slit-test" produces different phenomena in the two cases. This test is performed by passing a slit across the observing eye. If this be normal only portions of the halo will disappear, the remaining portions moving round the circle as different parts of the pupil are exposed. They illustrate their findings with diagrams. They maintain that this result supports the view that the halo is due to a structure of a more or less radial disposition.

If the eye be glaucomatous, however, the halo gradually loses in intensity as the slit is moved across the pupil, and finally disappears simultaneously all over.

3. That an estimation of the relative sizes of the halos cannot be accepted as a criterion of differentiation. While the size, at rather more than 6° angular diameter for the yellow ring, is approximately constant for normal eyes that of glaucoma halos varies considerably. This variability has been attributed by some observers to the particular stage of the disease at which the examination is made.

E. Maxwell.

Carlotti remarks that the role played by syphilis in the production of different forms of glaucoma has been mentioned by various authors. Yet it is remarkable that in the annual budget of communications devoted to glaucoma, the study of syphilis as a cause has a very small place. Elliot does not mention it in his book, nor apparently does Lagrange. Morax admits that glaucoma may be a secondary consequence of "specificity." The author gives statistics of 26 cases of glaucoma in recent years, which, he says, seem to prove, subject to verification on a larger scale, that treponemic infection may be a cause of all the forms of glaucoma, and that this form of ocular localization of syphilis is subject to the same rules as the others, from the therapeutic standpoint. Nevertheless, in advanced lesions "surgery has the last word." The reviewer does not consider the case histories given sufficiently conclusive to quote.

**ERNEST THOMSON.**

Imre, Joseph, M.D., Jr. (Budapest).—The endocrine origin of primary glaucoma. *Arch. of Ophthal.*, May, 1924.

Imre notes that there are cases of acute glaucoma histologically examined where the angle of the anterior chamber was free; that sclerotic changes in the arteries are frequently found in non-glaucomatous eyes; that there is no connection between permanent rise of blood pressure and intraocular tension, and finally that regulation of eye tension cannot be explained simply by changes in blood pressure and by nervous influence, nor by the pathological findings which are the result and not the cause of glaucoma.

On the other hand the disturbance of the balance of the endocrine organs causes as a rule a lasting change in intraocular pressure. The glands principally concerned are the thyroid, pituitary, gonads, and supra-renal. Thus hyperfunction of the hypophysis and pregnancy associated with signs of hyperpituitarism are associated with diminished intraocular pressures and, in general, decreased function of the excretory glands is associated with raised tension.

Imre began treating his glaucoma patients with fresh extracts of the deficient glands (method of extraction described in the paper) in 1919, and is very satisfied with the results.

Thirty-one cases have been treated, and in twenty-seven the close connection between glaucoma and endocrine disturbances was highly probable. Details of eight such cases are given from which it appears that the effect of the organ secretion is a specific one. When the defective organ or organs are discovered and an extract
of their substance administered, the tension becomes normal in some cases even when previous miotic or operative treatment has failed.

F. A. WILLIAMSON-NOBLE.


(7) Malling’s aim is to show that glaucoma and irido-cyclitis are probably one and the same disease, and that signs of a uveal involvement can be found in many cases of glaucoma if an examination with the slit-lamp and corneal microscope is made. He reviews the literature, referring in particular to the work of Koeppe and others on the subject of uveal pigment alterations, and draws the conclusion that lesions of the uvea are important factors in the causation of increased intraocular tension and that the clinical picture thus produced may be difficult to distinguish from that of primary glaucoma. He gives an analysis of 360 cases from the Tromsø clinic, dividing them into three groups, irido-cyclitis with normal or diminished tension, irido-cyclitis with increased tension, glaucoma. Of the 176 cases with increased tension 71 were examined with the slit-lamp and 105 without. Signs of cyclitis were found 19 times more frequently with the slit-lamp than without it and many cases were thus diagnosed as secondary glaucoma that would otherwise have been called primary. The uveal affection is probably dependent on some general cause, e.g., auto-intoxication or a derangement of metabolism. Its diagnosis he considers to be established by the presence of deposits on the posterior corneal surface, hyaloid membrane, etc., vitreous opacities, and by the formation of a characteristic membrane on the surface of the lens both in the pupil and behind it. The description of this membrane is the most original feature of the article. It was found 33 times in eyes with increased tension, is in Malling’s opinion very definitely associated with it, and is due to cyclitis and not iritis. In his analysis the cases are considered under a number of heads both as regards age-incidence, occupation, etc., and the actual state of the eye. Many more points of correspondence were found between groups 2 and 3 than between groups 1 and 2, and it was often difficult to diagnose a case with increased tension as either cyclitis or glaucoma with certainty. The article concludes with a reference to treatment in which no further evidence to support the author’s contention is brought forward.

E. H. CAMERON.
(1) Behr, Carl (Kiel).—Treatment of eye affections by parenteral injections of turpentine. (Die parenterale Terpentinbehandlung bei Augenleiden.) Muench. Med. Wochenschr., p. 1116, August, 1923.

(1) Behr says that milk has firmly established itself as an indispensable remedy in inflammatory diseases of the eye. It has, however, two disadvantages. One is the uncertainty of its action which we cannot foretell in any given case. Two cases may appear externally exactly similar. Yet in one there will occur an almost "crisis like" diminution of the inflammatory symptoms, whilst in the other there is no effect at all on the morbid process, although both have had an exactly similar dose. The second drawback is the not insignificant, though in general, quickly disappearing disturbance of the general well-being of the patient. This is usually seen in those patients in whom milk has a good effect.

The various special preparations, such as ophthalmosan, aolan, yatren kasein, etc., which are free from these drawbacks in Behr's experience are less effective than milk, and he has ceased to use them. He, therefore, looked round for another remedy. In turpentine he found a remedy which acts in some cases where milk has failed and can be injected under the skin without a disturbing local general reaction. A wide use of this remedy should now be possible, since a preparation called "Olobintin," consisting of a 10 per cent. oily solution of rectified turpentine, made according to the formula of Klingmueller can now be obtained. Klingmueller used it with great success in skin diseases. An exact dosage is now possible. Klingmueller in stubborn cases has used even a 40 per cent. solution. Even careful dosage, however, with this strength did not prevent severe pains. Behr prefers to use only the 10 per cent. solution subcutaneously. The site preferred is the gluteal region, under the arm or under the skin of the back. General manifestations or fever do not occur. Sometimes the patients complain of a feeling of tension or pressure at the site of inflammation. To illustrate the safety of the remedy in this strength, Behr mentions that once owing to the mistake of an apothecary who sent it instead of "Olobintin," pure turpentine was used. A severe inflammation and local destruction of tissue resulted, but there was no general reaction. The case was one of albuminuric retinitis which improved as regards the eye condition though the general condition was unaffected. 0.5 to 4.75 c.c., rarely as much as 5 c.c. is given as a single dose. In children
from 0.1 to 0.5 c.c. according to the age. A small dose is generally used at first and increased at different rates of speed as indicated. In severe cases where a vigorous action is required doses quickly increasing in strength are given daily for a period of eight to fourteen days, and as yet no ill effects have been seen. Turpentine like milk acts best in acute inflammations, with much secretion and exudation. Chronic cases are seldom and less distinctly influenced. His experience is based on 200 cases and 2,000 injections. The best results were obtained in diseases of the lids in which milk therapy usually fails. Especially good results were obtained in acute and also chronic forms of eczema and hordeolum, less marked in the severer form of blepharitis ulcerosa. The eczema usually clears up in a surprisingly short time after the first injection. It is useless in chronic conjunctival affections. In ophthalmic-blenorrhoea with much secretion milk is most efficient. Improvement takes place in six to twelve hours. Turpentine is slower in its action and the same result will not be obtained for several days. Turpentine should, therefore, be reserved for the slighter cases, milk for the severer ones. In phlyctenular conjunctivitis turpentine shortens the duration of the affection. In episcleritis and scleral infiltrations it is often efficacious, but most often does not cure by itself, but assists the action of the usual treatment.

Chronic eczematous keratitis reacts differently to treatment by milk and turpentine. In fifteen cases out of forty-two milk alone was effective, in two only turpentine, in ten both remedies acted, but milk was the more effective; in a fourth group neither milk nor turpentine acted but old tuberculin was very effective. The author cannot explain this curious phenomenon, which, however, possesses a definite therapeutic importance. Poor success was attained in treatment of primary and secondary iritis and affections of the ciliary body. Protein therapy is markedly superior in these affections.

Sixteen cases of inflammation of the retina and choroid showed a very variable reaction to turpentine. Often the visual acuity alone improved. Turpentine is worth a trial in retinitis and choroiditis, but eight cases of inflammation of the optic nerve showed no result, either with milk or with turpentine.

The author concludes by saying that his experience shows that turpentine is a useful remedy especially for use in out-patient practice. In many cases it can replace milk and often acts where this fails. On the other hand, turpentine often completely fails to act and a full explanation of this it not at present possible.

A. E. J. Lister.

(2) Ditroi works with two casein preparations, caseosan (Heyden), and aktoprotin (Chinoiinwerke, Neupest). Both have practically the same effect. Administration is by subcutaneous injection. The dose is 3 c.c. and this is given in a series of three, on consecutive days. After the elapse of a week another series of three is given. After the treatment has been employed for one or two months a series of five consecutive doses may be given. Despite the weekly interval, anaphylactic phenomena are unknown. Altogether 116 cases were treated, and these ranged in age from infancy to 82 years of age. Casein is superior to injections of milk. Local reaction is trifling. Fever never high. In one case 37°9C. General disturbance is slight.

The results in the different groups of diseases were as follows:—

Corneal infiltrations, excellent; simple corneal ulcers, fair; serpiginous ulcer, little or no effect (in this latter group injections of milk were found to be more efficacious); marginal keratitis, excellent; keratitis herpetiformis, no effect; keratitis punctata superficialis, excellent; keratitis interstitialis (specific), excellent (treatment in this group is carried out in combination with salvarsan).

Dystrophies of the corneal epithelium, poor; purulent ophthalmia, very mixed results (injections of milk are preferable in this group); corneal sequelae from trachoma, fair; acute iritis, excellent throughout; chronic iritis and iridocyclitis, excellent; post-operative iritis, excellent; sympathetic ophthalmia, excellent (in one case where mercury was combined the cure was complete); hyphaema, and vitreous haemorrhage either from injury or incision, excellent; retinal haemorrhages, excellent; inflammatory reactions after injuries, excellent.

S. SPENCE MEIGHAN.


(3) Rose Bengale (Bengal Red) is one of the aniline dyes made by Merck of Darmstadt, and Kleefeld considers that the work done by Roemer, Gebb and Leohlein in testing their action on organisms in vitro has not been sufficiently appreciated. Two mixtures of colours have been elaborated, the blue and the red each with a different bactericidal power and each having an affinity for a different organism.
The red has been used with success as a routine in infected wounds of the eye, but there have been many unsuccessful cases, probably due to the fact that the colouring materials have the power of coagulating albumen and so do not reach the depths of the infected tissue.

Kleefeld describes a method by which he obtains a more intimate association between the bactericidal agent and the infected tissue. He instils 5 per cent. Rose Bengale and then uses the chauffage method of Weekers for half a minute. This is repeated four times at one sitting, and in many cases no further drastic treatment is required. A resumé of the treatment as described by Weekers in 1910 and 1913 is given and also the type of ulcer which responds best to the treatment is discussed.

The Rose Bengale has been employed in the clinic as a routine instead of fluorescein, and the general impression has been that ulcers of all sorts have responded more readily to treatment, and it was this fact that gave birth to the idea of cooking the dye in the infected tissues and so having the benefit of both methods. The question of syringing versus excision if there is an infected sac is discussed.

O. GAYER MORGAN.


(4) In a short and concise article Boussi and Weil relate a case of a most stubborn type of "impetiginous" kerato-conjunctivitis in which an autovaccin succeeded in effecting an immediate cure after all the usual remedies had failed. Arsenobenzol was even used in spite of a negative Wassermann. It had no effect to speak of. Staphylococci, albus and aureus, were then cultivated from the impetiginous pus and an autovaccin prepared. This was injected in the thighs, alternately, subcutaneously. At intervals of three days injections were given of 0.25 c.c., 0.5 c.c., 0.75 c.c., and 1 c.c. Thereafter 1 c.c. was given every three days on nine occasions. After the fourth injection there was an "immediate and evident" cure. All the symptoms, ocular and facial vanished. The corneal ulcers healed, the conjunctivae dried up and the blepharospasm disappeared. Nothing remained except corneal opacities and some enlargement of the submaxillary glands. The child (aged 14 years) was taken to the seaside at the end of the treatment and the cure was maintained in spite of the fact that on previous occasions the condition had been aggravated by residence by the sea.

ERNEST THOMSON.
(5) Delorme, Dr.—Two cases of ophthalmic migraine treated by benzoate of benzyl. (Deux cas de migraine ophthalmique traités par le benzoate de benzyle.) Arch. d'Ophtal., January, 1924.

(5) Delorme's two cases were not of ophthalmoplegic migraine but ordinary migraine with scotomata and teichopsia. Both patients had been carefully refracted with but little benefit. Treatment with benzoate of benzyl (known as a proprietary drug by the name of "antispasmodin") produced a permanent cure. The solution employed was an alcoholic one of 20 per cent. and the dose varied from 5 to 30 drops, three or four times a day. No toxic effects were produced. The drug has previously been found of value in persistent hiccough and in whooping-cough. A short bibliography accompanies the paper.

E. E. H.

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(1) The authors describe five cases of this disease in a family of nine children; each child of the five was found to conform with remarkable exactness to the cases described in the literature to date; the history was similar in each, for each child was normal as far as the parents could say up to the age of six or seven years. At this age some defect of vision was noticed and on examination, a considerable amount of brown pigment was found about the macular region, with some pallor about the nerve head; these changes have progressed in the two elder children until the picture of complete optic atrophy has developed; nystagmus made its appearance from the seventh year in each, but after the age of ten years this sign disappeared. Eighteen months after the onset of visual defect, epileptic fits made their appearance; these were of the grand mal type and increased in number as the children grew older. The mentality progressively deteriorated from the age of eight to twelve years and the children became quite imbecile.

The history of the parents revealed nothing abnormal except an ordinary concomitant squint in the father; the Wassermann reaction was negative and the parents were not related.

The case histories of the five children are given fully; the authors have also examined the rest of the children of this family; the four youngest have so far been found to be normal, but the sixth, a boy aged 6½ years, appears to show the earliest signs of this disease,
his mentality was bright but it was found that his vision was slightly defective and a diffuse gray cloud of pigment was found at the macular region.

In their discussion of these cases together with similar cases in the literature, the authors throw out the interesting suggestion that amaurotic family idiocy, maculo-cerebral degeneration and familial retinal degeneration are all varieties of the same progressive disease, and that it depends on the age at which symptoms first make their appearance, into which category they shall fall. Amaurotic family idiocy occurs early in life, before the second year as a rule, and progresses very rapidly to a fatal termination.

The maculo-cerebral type first shows symptoms at the appearance of the second dentition and ends in blindness and imbecility, the last type begins later in life, after the fourteenth year as a rule, and shows only changes in the retina without any idiocy.

R. R. J.


(3) Bickel, who is a physician at the Geneva Cantonal Hospital, appears to claim the discovery of a new syndrome which he calls the retro-olivary bulbar syndrome analogous to the syndromes of Babinski and Nageotte and of Cestan and Chenais. In his case the syndrome resulted from a circulatory disturbance in the domain of the right postero-inferior cerebellar artery. The reviewer is not in a position to know whether the syndrome is new or otherwise, but the following are the principal facts as given by Bickel.

Premising that one finds, scattered in the literature, a certain number of observations in which certain quite definite disturbances of ocular motility have been observed independently of any alteration of the nuclei of the third, fourth or sixth pairs of cranial nerves or of their infranuclear fibres, the author says that these remote ocular symptoms have been ascribed as a rule to disturbances of the labyrintho-oculomotor connections starting from the nucleus of Deiters and passing via the posterior longitudinal bundle to the oculomotor nuclei. This interpretation in his opinion does not take account of all the facts observed.

To reduce the author's case to its most salient facts, the patient was a man aged 42 years who, except for the nervous symptoms presented, associated with a tendency to take too much alcohol, had nothing otherwise wrong with his health and was father of seven living children. He presented the following "syndromes."
(1) Cerebellar. He could not stand without "increasing his base" and he could not walk because he fell to the right. Closing the eyes did not increase the difficulty of standing. There were also other cerebellar symptoms including nystagmus on looking to the right. (2) Sensational. Hemianaesthesia of the left half of the body. (3) Cranial nerves. The lower nerves were chiefly affected and all on the right side. Omitting the characteristic symptoms, the seventh, eighth, ninth, tenth and eleventh were all affected. The first, second, fourth and sixth were unaffected. Regarding the third there was a slight almost exactly vertical diplopia. (The author discusses this at considerable length.) The fifth was slightly involved as shown by diminution of the conjunctival and corneal reflexes. (4) Sympathetic. There were both ocular and general symptoms. Thus there was miosis on the right side but without ptosis or enophthalmos. The pupils reacted to light and on accommodation. Finally, examination of the blood and of the cerebro-spinal fluid gave a negative Wassermann.

The following is the author's finding:—"The quadruple syndrome presented by our patient is of peculiar interest because of the fact that it can be completely explained by one and the same lesion which can be localized with very great precision. Only one spot in the nervous system is capable of bringing about the symptom-complex which has just been outlined and that spot is the right lateral region of the spinal bulb immediately behind the olive." It stands to reason that any one who wishes to satisfy himself as to the correctness of the author's conclusion must study this article and the bibliography (eleven references) in the original. Nothing is said of the patient's ultimate history.

**Ernest Thomson.**


(3) Among the sequelae in chronic encephalitis, are principally motor disturbances, with tremors either confined to one or involving both sides. There may be also symptoms of a visceral neurotic nature. The latent period between the acute and the appearance of the chronic symptoms may be long; it may even last 15 months.

During this latent period the only symptoms may be a tremor of the mouth or tongue. Nothing else would be present to denote that a serious illness had been passed through.

After this period, in one case there developed an external rectus paralysis, Parkinsonian syndrome, and, finally, death. Among these late symptoms there is sometimes to be found a convulsive twisting
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of the vertebral column called dystonia lordotica; pupillary changes also occur in the later stages.

Of 60 patients, 29 only remained normal. Of the remainder, 14 had anisocoria. Two cases had a total one-sided light paralysis. Eight cases had a one-sided, and 8 a total sluggish convergence and light reaction. In 6 cases a total and, in one case, a one-sided sluggish light reaction with a normal convergence reaction was present. Disturbances of accommodation existed in 7 cases. The pupillary disturbances may last for a long time, even when the other sequelae are very slight. In more than a third of these cases there existed at the same time an isolated eye muscle paralysis, with or without nystagmus, or a one-sided paresis of the mouth branch of the facial. Amongst the general disturbances are insomnia, frequency of respiration, and irregularity of the temperature. The source of these would seem to be localized in the floor of the third ventricle. The blood in all these cases was normal.

S. Spence Meighan.


(4) Kisch described, 1918, the ear-lid reflex, which consists in the closing or winking of the eyelid lasting two to five seconds in consequence of the stimulation of the interior of the aural canal or the tympanum. It is not to be confused with the reflex of Bechterew, which consists of a lid reflex due to sudden aural stimulation.

The reflex is best brought out, not by touch but by dropping about 1 c.c. of cold water from a pipette. The reflex, according to Kisch, is always present in health, and, is absent in cases of fracture of the skull, concussion, apoplexy, and rarely present in other cerebral affections either single or double sided. It can be exaggerated in mild concussion and in functional disturbances. The reflex goes by the trigeminal to the facial. Other observers have studied this reflex. The writer himself found in 150 healthy persons that the reflex was positive except in two cases. In these, however, there had been a history of old skull injury. He examined in addition 39 cases, chiefly with brain injury, but also a few with brain tumour. Three had a normal reflex, and of these two had a neurosis, and one a frontal bone injury. In three cases it was prolonged, and these comprised a concussion and a hysteria. In 33 cases the reflex was absent. Examination of the auditory canal in these cases where the reflex was absent showed a lowered sensibility. He holds that the absence of the reflex on one or both
sides allows one to conclude in persons with healthy ears, that there is an organic nervous lesion, and that the reflex is important in cases of injury to the skull.

S. SPENCE MEIGHAN.

(5) Harbridge (Delamere) and Phoenix, F. (Arizona).—Optic atrophy manifested by visual disturbances following distant haemorrhage. Amer. Jl. of Ophthal., March, 1924.

(5) The optic atrophy in this case of Harbridge's occurred in a woman, aged 40, who had suffered from frequent epistaxis of more or less severity all her life. Slight injuries, cuts in the finger, etc., healed normally.

In 1911, three months before giving birth to twins she had severe epistaxis followed in twenty-four hours by gradually increasing loss of sight, leaving her practically blind for three months. A gradual improvement followed, more marked in the right eye.

A similar attack occurred in 1916, after which the left eye was blind, the vision of the right eye markedly reduced, and improvement occurred in the ensuing months; a third attack two months before examination caused temporary impairment of vision.

When seen, the vision in the right eye was 5/7.5, the disc pallid with hazy margins, and the field for form reduced by 10-15 degrees. The vision of the left eye was 5/60, there was definite grey atrophy of the disc, and the field for form was reduced to 30 degrees. The Wassermann and tubercle fixation tests were negative. The urine was normal.

Commenting on the recorded cases of visual disturbance following haemorrhage, the author notes that:

(1) The disturbance is generally bilateral.
(2) Blindness usually occurs three or four days after the haemorrhage.
(3) One-third of the cases remain blind, the balance recovering to a degree, rather promptly at first, and then slowly over a period of weeks or months.
(4) The fundus may show slight haziness, a moderate retinal oedema, neuritis, or atrophy.
(5) The cause is possibly "endocrine imbalance." Sometimes thyroid extract, at other times adrenalized serum is of service in preventing the haemorrhages.

A bibliography is appended of cases reported since 1912.

F. A. WILLIAMSON-NOBLE.