Critchley writes an introduction pointing out the possibilities of the drug in the study of the psychology of vision.

Apparently mescal is unique among drugs in that its main action is that of a stimulant of the visual and visuo-psychic areas of the cortex, producing visual hallucinations, alterations in the vividness of visual imagery, and apparent change in the aspect or behaviour of real objects. Those who wish to experiment with this strange drug should be warned that the resulting Katzenjammer on the following day seems to have been, in some of the subjects, very severe.

ABSTRACTS

I.—NEUROLOGY


(1) Dworjetz draws attention to a group of cases wherein the optic nerve may give a typical picture of advanced atrophy, with a white disc and small vessels, and yet, at the same time, the vision of the eye may remain tolerably good. He quotes nine cases. Of these the neurological diagnosis was:—One case, tabes; two, cerebro-spinal syphilis; one, disseminated sclerosis; one, disease of the antrum of the same side; two, post-typhoid; two, alcohol poisoning. The ophthalmological diagnosis was:—Five cases of simple atrophy; three cases, neuritic atrophy; one case, atrophy after papilloedema. In each case the clinical appearances were those of total atrophy.

He concludes that a completely white nerve head does not exclude the presence of visual acuity; that optic atrophy cannot be diagnosed on the clinical appearance of the nerve head; that an atrophic appearance does not necessarily indicate an atrophy of the nerve fibres; and that the intensity of whiteness of the disc is no guide to the degree of actual atrophy which is present. He suggests that cases, which show an atrophic appearance with retention of vision, should not be called cases of optic atrophy at all, but that the term Hypotrophy or atrophy in the nerve, not of it, should be used.

W. S. Duke-Elder.

Glasscheib maintains that negative findings in the neighbouring sinuses in cases of retrobulbar neuritis are to be explained in many cases, not by the absence of disease, but by faulty diagnosis, and the failure to recognise the existence of a transudate of non-inflammatory origin. A transudate of this nature is capable of causing an oedema which in turn can cause disturbances of circulation. The existence of this transudate can be demonstrated in the maxillary antrum, where puncture and aspiration are possible, but in the ethmoid it can only be inferred from the X-ray appearances. Elsewhere the author has discussed the nature and causation of this condition; he holds alkalosis to be responsible for it; this alkalosis is said to be the result of a deficiency of vitamin D. The rational treatment of cases of retro-bulbar neuritis due to this affection is therefore the administration of vitamin D, and of substances reducing the alkalosis. A case is reported of bilateral retrobulbar neuritis occurring in a vegetarian whose diet consisted mainly of roots and berries. The administration of a diet rich in fats brought about a cure.

The author also holds that the ethmoidal cells and sphenoidal sinus may be subject to an unrecognised type of inflammation giving rise to a fibrinous exudate. In the case of the ethmoid the only signs are nasal catarrh and some oedema of the middle turbinate; when the sphenoid is affected there is severe temporal headache. X-rays do not help in the diagnosis. In the author's opinion the failure to recognise these two types explains the negative findings in so many cases of retrobulbar neuritis.

A. Sourasky.


The view most commonly held at the present time is that tabetic optic atrophy is not produced by the direct action of the treponema pallidum, but is rather a degenerative process. Wagner-Jauregg distinguishes two distinct processes occurring in metasyphtilitic lesions generally, an inflammatory process due to the local action of the organism, and a degenerative process due to the cumulative action of its toxins. That optic atrophy partakes of the latter nature is suggested by the fact that in general paralysis which is not complicated with tabes, optic atrophy rarely
occurs even although large numbers of spirochaetes are found in the brain. It will be remembered that Igersheimer found no fundamental difference between the optic atrophy which occurs in general paralysis and that which complicates tabes. Further, cases of tabes which develop symptoms of optic atrophy before ataxy is evident rarely progress to a marked condition of ataxy. Again a tabetic with marked ataxic symptoms does not usually develop a subsequent optic atrophy. Lastly, optic atrophy progresses typically in those cases where the other symptoms of the disease seem to be comparatively stationary.

The author gives an encouraging report of the therapeutic effects of malarial inoculations, considering that an arrest of the degenerative process is possible, and that sometimes an improvement of vision may be obtained. He recommends the combination of malarial parasites with quinine in order to avoid excessive elevations of temperature.

W. S. Duke-Elder.


(4) The following case of anomalous development of the optic nerve, reported by Koyanagi, has some points of interest. The patient was a boy, aged 19 years, with poor vision from birth, who had lost all sight in his left eye five years before he came under observation. The disc showed a colobomatous appearance, was twice as large as normal, of grey white colour, irregular in shape, and deeply excavated to the depth of about 8D. The retinal vessels at the nasal side emerged abruptly from the depth of the disc; those on the temporal side escaped more gradually. The arteries were small, and the whole retina showed pigmentary changes. There was no coloboma of the uvea. A small piece of the optic nerve was dissected out with preservation of the blind eye, and was subjected to microscopical examination. The nerve fibres were curiously arranged and much degenerated, there being a compensating excess of glial cells and of septal structures. There was much fatty tissue present, and the vessels were very small. Masses of tissue showing muscular structures were found in the intervaginal space. The muscular fibres were of the skeletal type.

Koyanagi considers that this muscle-tissue is a morphological relic. Fleischer, in 1908, reported a case of microphthalmos with coloboma of the uvea, in which there seemed to have been a rudi-
ment of a retractor bulbi. Lange, in 1897, found in the posterior part of a thickened sclera a mass of muscle fibres which he considered to be a relic of the orbital muscle.

W. S. Duke-Elder.


(6) After referring to the case recorded by Henschen, in which a paracentral scotoma, confined to the horizontal meridian, was found to be caused by a lesion in the depth of the calcarine fissure, Pötzl gives details of a case under his own observation, and attempts to elucidate the nature of this scotoma. In his case, the evacuation of a blood-cyst situated in the superior temporal gyrus caused a temporal hemianopsia to shrink to a central scotoma very similar to that described by Henschen. Whilst pointing out that it was, of course, impossible to demonstrate the absence of a lesion in the depth of the calcarine fissure, during an exploratory operation in the temporal region, the author holds that compression of the optic radiation by the blood-cyst explains all the variations observed in the visual fields in his case. He advances arguments, mainly of an indirect nature, to show the connection between the fibres of the horizontal meridian and the external geniculate body.

A. Sourasky.


Lutz collected 84 cases of binasal hemianopsia recorded in the literature, and here submits them to a detailed analysis, adding the history of two cases observed by himself. This rare disturbance of the visual field, he finds, occurs predominantly in males, and most frequently in the third and fourth decades of life. It may develop from a condition of complete loss of sight, or go on to complete blindness; on the other hand it may become stationary, or entirely disappear if the underlying cause is removed, or may even relapse. It sometimes takes the form of a binasal hemiamblyopia or hemiachromatopsia. The temporal halves of the field may be normal peripherally, and as regards the colour sense: in some cases, however, they too show an impairment. The central vision is almost invariably greatly reduced; sometimes a central scotoma is present. The loss of field in this variety of hemianopsia always begins at the periphery—never with binasal scotomata, as occurs in the bitemporal type—and usually in the lower nasal quadrant.
A sudden onset in both eyes simultaneously is never observed: one eye is affected first, and after a variable interval, the other becomes implicated.

The absence of other clinical signs is often a striking feature in the records of these cases. In some, binasal hemiakinesis pupillaris is the initial symptom, if the condition does not develop very rapidly. Ophthalmoscopic examination may reveal the presence of papilloedema, neuroretinitis, or simple optic atrophy; in some cases there are no changes in the fundus.

As to aetiology, the author mentions in the first instance cerebral tumour, especially if situated under the tentorium. By hindering the flow of the cerebro-spinal fluid it leads to a bulging of the floor of the third ventricle and to pressure on the optic nerves by the neighbouring arteries of the circle of Willis. Other causes are found in the changes in the circle of Willis, particularly aneurysms (due to arterio-sclerosis, fevers, syphilis and trauma), tabes and hysteria.

THOS. SNOWBALL.


(7) In recording two cases of palsy of ocular muscles following spinal anaesthesia for operations on the appendix, Blatt reviews the literature on the subject. In the two cases recorded by the author the anaesthetic used was stovaine and caffeine. In one case there was a bilateral palsy of both external recti, associated with exophthalmos and miosis in the right eye; in the other case there was a left-sided lesion involving the external rectus. Eventually there was a complete recovery in both cases.

Including his two cases, Blatt has only been able to collect 84 cases in the literature. In 66 per cent. of these stovaine was the analgesic used, and the author holds that the proportion in which this agent was used is no coincidence (and presumably not explained by the greater frequency with which stovaine is used as compared with other analgesics). He points out that stovaine also affects the motor function, producing a slight paresis in addition to analgesia. Added substances like strychnine or caffeine, which are supposed to minimise the risk of motor involvement, are apparently not quite effective, as ocular complications have been reported with both.

Of the 84 cases, abduction paralysis occurred in 68, of which 26 involved the left side, 24 the right, and in 18 the affection was bilateral. Six cases of ophthalmoplegia externa are recorded, one
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associated with mydriasis, and four with miosis. The trochlear nerve was involved in three cases, and the facial in two.

The time of onset of the paralysis varies between 3 and 21 days after the lumbar puncture. In no case reported was it under three days. In 45 per cent. of cases it was between 3 and 6 days; in 30 per cent. between 7 and 10; in 15 per cent. between 11 and 15; and in the remaining 10 per cent. between 16 and 21 days. All cases recovered fully, the shortest period being 5 days, and the longest 10 months. In 54 per cent. recovery was within 4 weeks; in 26 per cent. between 5 to 8 weeks; in 10 per cent. between 9 to 12 weeks; and in the remaining 10 per cent. between 4 and 7 months. If recovery has not occurred within 6 weeks, it is likely that it will be very slow.

The aetiology is obscure. Cases are recorded following the mere puncture without the introduction of the analgesic agent. Experimental evidence does not support the view that these cases are the result of small nuclear haemorrhages. The toxicity of the analgesic agent has been blamed, as likewise excessive doses. A neuropathic predisposition is said to be present in most cases, whilst Jonesen holds that ocular palsies are merely coincidences; they are really of syphilitic origin and quite unassociated with the spinal anaesthesia. It is possible that there is a syphilitic basis in many cases, and that the spinal anaesthesia acts as an exciting cause.

The author points out that contraction of the antagonistic muscles is likely to occur in cases that are not treated. Apart from treating any associated condition (such as syphilis), galvanism and faradism are advised, as also caffeine and iodides.

A. SOURASKY.


(8) A paralysis of motor nerves as a complication of herpes zoster is rare, but by no means unknown. Schöpfer records a case of a man, aged 65 years, who developed herpes zoster ophthalmicus on one side with a typical frontal distribution. Over the skin area there was no sensibility; the cornea, however, was clear, while its sensibility was normal, and the pupil reactions were intact. Five days after the onset of the disease he developed a paralysis of the homolateral sixth nerve. The author gives the opinion that the infection was due to direct spread allowed by the close association of the sixth with the fifth nerve in the cavernous sinus and the superior orbital fissure.

W. S. DUKE-ELDER.

Otto and Hans' Barkan are of opinion that fracture of the optic canal with resultant lesion of the optic nerve is much more common than is generally supposed. Holder, for example, in 126 cases of fractured base noted that 60 per cent. passed through the optic foramen, though Brun found the condition in only eight out of 470 cases. This discrepancy is probably because the former cases were mainly in suicides by gunshot wounds. The authors have seen 22 cases of fracture of the optic canal in six years of practice, and they believe that if careful fields were taken in all cases of fractured base there would be found a fair percentage of partial constrictions. The history of a typical case is that of injury with a blunt object in the region of the orbit, usually the outer portion of its upper margin, followed by immediate almost complete loss of vision. The orbital plate is very thin in its posterior two-thirds, so that a relatively slight force is sufficient to break it; which is important from the forensic standpoint. One of three things may now happen—first there may be rapid and complete recovery, in which case pressure of blood within the sheath has produced only functional inhibition of the optic nerve; secondly, there may be partial recovery leaving a permanent field defect due to a tear having been produced in the nerve; thirdly, there may be complete severance of the nerve. Ophthalmoscopically, the findings in the author's cases have been negative until descending atrophy appeared, at some date after the second week. With regard to fields, a sector defect, even if observed early, will probably remain unchanged being due to a tear in the nerve, and, in the authors' experience, a sector defect which extends to and includes the macular region is almost pathognomonic. The pupillary phenomena are of interest; in the early stages, where there is complete arrest of visual impulses, the direct light reaction is absent. In the functional cases, due to pressure of blood, it returns as absorption progresses. If the nerve is torn, however, the return of the pupil reaction depends on whether the papillo-macular bundle has been spared or not. If it has there may be quite a large field defect with a normal pupil reaction. While if the bundle has been involved, there may be loss of only one-third of the total field, including, of course, the macular area, with complete abolition of the pupillary reflex to light. This phenomenon has led to erroneous diagnosis of pre-existing luetic infection. An important observation made by the authors is that, up to date, X-rays have been of no avail in diagnosing the type of case they are reporting.

F. A. Williamson-Noble.

McCowan and Cook obtained the material for this paper from a total number of 136 encephalitics, all of whom are, or have been, patients in West Park Mental Hospital or the Manor Institution for mental defectives. Of these, 23, approximately 17 per cent., were affected. Notes of five representative cases form an appendix to the paper. The authors sum up their results as follows:

1. Oculogyric crises are unknown apart from epidemic encephalitis, and it is only of comparatively recent years that they have occurred. In our series the earliest case commenced in 1923, and the earliest epidemic which led to a case was that of 1919. The shortest interval between the acute attack and the appearance of the crises has been a few months, and the longest eight years.

2. These crises are not associated with any particular mental type of encephalitis, but so far they have not been described in a non-Parkinsonian case. Other ocular symptoms are not more frequent than in the ordinary encephalitic without crises.

3. The crises are in the nature of tonic seizures and need not be confined to the eye muscles, a more or less co-ordinated spread to the muscles of the head and neck being not uncommon. Physical pain is an unusual concomitant, but physical distress of various kinds is very common.

4. The eyes may become fixed in any position, and this position may change during a crisis, or from one crisis to another. In one case the eyes took up a position of forced convergence, and in three a fixed stare to the front has been observed. This variability is important in determining the site of the lesion.

5. The duration of the attack varies from a few seconds up to several hours, and attacks in the same patient may vary considerably in this respect.

6. The majority of patients show a predilection for certain times of the day, and this is doubtless to be correlated with the effect of fatigue and emotion as determinants of attacks.

7. It is occasionally possible to shorten or prevent the attacks, and suggestion is the most potent agent in this respect. Each patient usually finds some means of allaying the discomfort incident to the crisis, lying down with eyes covered being the most common.

8. It is misleading to regard these crises as hysteriform in nature. The undoubted similarity between the results of precipitating and inhibitory factors in hysteria and encephalitis should
not be strained, as variability of symptoms depending on suggestion and emotional factors is not confined to hysteria, but is present to some extent in practically all diseases of the nervous system.

9. The increased suggestibility of the encephalitic is due to an interference with normal cortical control and a cutting off of its inhibitory influence.

10. The abolition of cortical inhibition explains the release phenomena of different subcortical centres manifested clinically as tonic fits, ocular spasms, myoclonias, emotional facility, paradoxical reactions, etc., the particular manifestation depending on the site of the lesion.

11. The causal lesion of oculogyric crises lies in associational mechanisms situated above the four supranuclear centres subserving conjugate movements, the theory being accepted that there is a supranuclear centre for lateral conjugate movements, and one for vertical movements on each side.

12. The effect of emotion on the crises is probably indirect, brought about by an inhibition of the already enfeebled inhibitory fibres from the cortex.

13. In a certain proportion of the cases the crises tend to disappear with time, and this is specially so in cases treated with hyoscine.

14. A large proportion of encephalitics who suffer from oculo-zytic crises subsequently require certification, a fact which should be correlated with the loss of cortical inhibition in these crises and in encephalitic psychoses.

15. Hyoscine administered hypodermically is the most generally useful method of treatment in this, as in other Parkinsonian phenomena, but it should only be used under careful supervision and in selected cases."

A useful bibliography accompanies the paper.

E. E. H.


(11) In this paper Fulton gives an interesting account of a very unusual case from Cushing's Clinic at Boston. The patient was a man, aged 26 years, who suffered from headache, failure of vision with right homonymous hemianopia, left exophthalmos with slight pulsation, and bilateral papilloedema with advanced secondary atrophy on the left side, and early secondary atrophy on the right side. In view of the fact that there was a loud coarse
systolic bruit over the left occipital region, Cushing, before operating on a presumably very vascular tumour, ligatured the external carotids on both sides. On turning down a left occipital bone flap, a large angry-looking angioma arteriale racemosum of the left occipital lobe was disclosed which extensively involved the visual cortex. Haemorrhage was so extensive that the operation was abandoned and a decompression made.

The patient made a satisfactory recovery and deep X-ray treatment was of considerable benefit in reducing the discomfort from the bruit. Subsequent examination showed that when the patient used his eyes for reading, or attempted to perceive objects to his blind side without otherwise exerting himself, a very marked increase occurred in the bruit, detectable both by auscultation and by electrophonograms. Other types of mental effort, such as straining to hear the tick of a watch or various forms of olfactory stimulation had no influence upon the bruit. It would appear that visual effort was associated in this case with increased vascularization of the occipital cortex.

E. E. H.


(12) Langdon and Cadwalader give a report of a case which they believe is the only one recorded in which a post-mortem examination has been made in a case of progressive external ophthalmoplegia. The patient was a woman, aged 81 years, in good general health when first examined by the authors. The right eyelid began to droop at the age of 43 years and soon after this the left lid was similarly affected. Examination revealed complete ptosis of each eyelid: the visual axes were slightly divergent; the pupils measured 3 mm. on each side and reacted promptly to light. The power of accommodation was very feeble, but not entirely lost (how much accommodation is present normally at 81 years of age?—Reviewer). The two eyeballs appeared immobile, but, on voluntary effort, an extremely small movement of each eyeball, when rotation was attempted in any direction, could be detected. The patient died of pneumonia three years later, and the brain was secured for pathological examination. The sixth nerve nuclei were easily recognised. The cells of each nucleus were well stained, and chromatolysis was very slight when compared with the cells of a normal nucleus. The nerve cells were slightly diminished in number and presented definite variations in size and, to some extent, in shape. At least one-third or one-half of their number were distinctly smaller in diameter than
the others. Similar appearances were not observed in the control sections. The bundles of fibres composing the root of the sixth nerves in their course through the pons appeared smaller in diameter and less numerous than in the control. Similar appearances though less marked, were observed in the third and fourth nuclei. The cells composing the nuclei of Darkschewitz, Perlia, and Edinger-Westphal were normal in size and number. There was no evidence of nerve degeneration (Weigert), nor was there any evidence of inflammatory reaction.

The authors draw attention to the similarity of their observations to those found by Greenfield and Stern in progressive spinal muscular atrophy of childhood of the Werdnig-Hoffmann type, and consider that their case must be regarded as a similar form of chronic neuron degeneration, though the alterations were practically limited to the ocular neurons, and presumably due to the same pathological process. An interesting discussion of the literature on the functions of the nuclei of Edinger-Westphal and of Perlia concludes the paper which is accompanied by a bibliography and illustrated by micro-photographs.

E. E. H.


Kolodny's paper is mainly of neurological interest and deals at considerable length with the various localising symptoms in a series of 38 cases of tumour of the temporal lobe. As regards ocular symptoms, papilloedema was present in 86 per cent. of the cases. The comparative degree of swelling of the nerve heads was only found to be of lateralizing value when seen in the incipient stages. The author points out in opposition to Cushing's statement that "the perimeter as a diagnostic aid in temporal lobe tumours is possibly the most important agent of all," that trustworthy examinations of the visual fields were possible in 74 per cent. only of the cases of his series, and that defects of lateralizing importance were only found in 18 per cent. In over 46 per cent. of the twenty-eight cases with reliable examinations the fields were normal. He explains the relative rarity of defects in the visual fields by the fact that the fibres of the optic radiations, in their course towards the area striata, wind round elastic and yielding structures, the inferior and posterior horns of the lateral ventricle. Three excellent semi-diagrammatic drawings of the course of the optic radiations illustrate his point. The paper is accompanied by a useful bibliography and will repay reading in the original.

E. E. H.
II.—OPERATIONS


(1) Greeves describes an operation for partial contraction of the socket which he has used with success in seven cases. He finds it most suitable for cases of obliteration of the lower fornix, but a similar device can be employed to deepen a contracted upper fornix. An incision is made in the floor of the socket parallel to the lower lid margin, and at a distance behind it equal to about the width of the normal lower lid. Through this incision, which should extend across the width of the socket, the lower part of the orbit is emptied of fat and fibrous tissue. Three sutures of No. 1 silk threaded with two half-curved needles are passed thus:—one needle of each suture is inserted behind the conjunctival incision, passed through the periosteum of the lower rim of the orbit, and brought out through the skin of the face; the second needle is then inserted in front of the conjunctival incision at a point opposite to the first, passed similarly through the periosteum and brought through the skin next to its fellow. The central suture is inserted before the lateral ones, and finally the two ends of each are tied together on the skin surface over pieces of rubber tubing. The sutures are removed after ten days. Important points are that scar tissue and fat must be freely excised, and that the sutures must pass through the periosteum.

G. G. Penman.


(2) Sondermann, to insure a more efficient action of the extraocular muscles after enucleation of an eye, attaches them to the conjunctiva previous to their separation from the sclerotic. After enucleation a fat implantation is made in the orbit and the conjunctiva is closed by a purse-string suture.

W. S. Duke-Elder.


(3) Shoemaker in 1907 devised a modification of Motais' original technique by adding a skin incision, so that the muscle tongue could be anchored accurately to the tarsus in its proper
position. **Kirby's modification consists in doing the entire operation through a skin incision.**

The technique is briefly as follows:—

A horizontal incision 25 mm. long is made through the skin of the upper lid, 8 mm. above its margin. The aponeurosis of the levator is followed backwards to 8 mm. above the tarsal border, where a horizontal incision is made through it and through the smooth muscle of the upper lid, exposing Tenon's capsule. The conjunctiva of the fornix is held out of the way by a retraction suture. Tenon's capsule is opened at the temporal side of the superior rectus, and a hook is slipped beneath the muscle, which is exposed so that a tongue 10 mm. long and 4 mm. wide can be made. A double-armed silk suture is passed through the tongue 2 mm. from its end, by which it is anchored to a pouch prepared for it anterior to the tarsus, the needles being made to emerge through the lid margin just nasal to the centre of the cornea. A second suture is used to unite the tongue to the tarsus. The skin incision is closed by interrupted sutures.

Of the 12 operations so far performed eight were completely successful, one was a failure, one was over-corrected, and two were under-corrected.

F. A. Williamson-Noble.


(4) Parker recommends the use of epidermic rather than whole skin grafts in repair of the lids, if the conjunctiva is intact. The cutting of these is facilitated by smearing the prepared surface and the razor with a layer of sterile vaseline because this prevents the grafts from curling up and helps them to adhere to moulds, or to the prepared surface. They should be transferred directly from the razor to the surface to be grafted by putting a few drops of saline on the razor and allowing it to flow under the graft. When there is a large surface requiring more than one graft, they should be made to overlap each other by 3 or 4 mm. Sutures are not necessary if the graft is large enough to cover the whole surface and there is no probability of its being pressed away when dressings are applied. If sutures are used, they should be passed through the graft before being made to enter the edge of the skin. Senile ectropion, due to hypertrophic conjunctivitis, is often cured by cautery punctures of the conjunctival surface of the lid, provided the puncture is deep enough to pass through the tarsal plate. If this fails, the Kuhnt-Scziminoski operation is required; the base
of the triangle of skin which is removed should pass up and out from the outer canthus at 45° and not horizontally, as often shown. When the ectropion is more extensive, an incision is made along the lid margin immediately outside the hair line, the lid is dissected free and an epidermic graft applied to the raw surface. For dressings, the author advocates the use of rubber strips 10 mm. wide, laid on overlapping, if the surface is not concave. If the surface is crater-like or uneven, a mould should be taken with dental wax, and the graft be applied to the mould, raw area outwards. The mould is then replaced and kept in position by gauze saturated in sterile vaseline. The dressings are removed on the eighth day and the parts cleansed with boric lotion and stitches removed. Dressings are re-applied for three days and then removed finally, the graft being smeared with sterile vaseline. A useful procedure in extensive symblepharon is to dissect the lids free and insert into the conjunctival sac a disc made of equal parts of wax and paraffin and covered with an epidermic graft. The disc should have a hole in the centre so as to avoid injuring the cornea. During healing exfoliating epithelium can be removed by pledgets of cotton wool dipped in alcohol.

F. A. WILLIAMSON-NOBLE.


(5) v. Szily recommends, for the operative treatment of keratoconus, a superficial cauterisation of the apex in the cone of the cornea by a galvano-cautery at a dull red heat. The area treated is of a diameter of 3 mm., and the treatment is repeated two or three times at eight to ten day intervals. After final cauterisation has taken place and been approved, a small iridectomy is done at the optically best side. This is followed by the tattooing of the central scarred area with gold chloride.

Out of his operative procedures an interesting example of the close connection between trauma and interstitial keratitis is shown. A girl, a congenital syphilitic, with interstitial keratitis and keratoconus was treated in this way and had a relapse of the keratitis after each cauterisation.

W. S. DUKE-ELDER.
III.—EYELIDS

(1) Weekers, L (Liège).—The treatment of spasmodic entropion by alcoholisation of the terminal filaments of the facial nerve in the eyelid. (Traitement de l'entropion spasmodique par l'alcoolisation des terminaisons du facial, dans la paupière.)
Arch. d'Ophtal., January, 1928.

(1) Spasmodic entropion of the lower eyelid can be completely, though only temporarily, relieved by anaesthetising the lid by infiltration. The result is due to oedematous distension of the tissues and transient paralysis of the orbicularis by the novocaine. It occurred to Weekers that a permanent effect, equally favourable and as easily attained, might result from alcoholisation of the lid. He found, on trial, that his expectations were realised.

In the first instance he injects 0.5 to 0.75 c.c. of a 4 per cent. solution of novocaine, along the free border of the lid about 3 mm. from the edge. Five or ten minutes later he injects 0.5 to 0.75 c.c. of 80 per cent. alcohol, at the same spot and in the same manner. These procedures are painless.

The injection of alcohol provokes a moderate degree of palpebral oedema which gradually subsides in about eight days. The effect on the entropion is immediate; the inverted lid resumes its normal position and retains it. The injection is sometimes followed by some induration of the skin of the lid noticeable on palpation; this probably aids in the cure of the entropion. No permanent loss or diminution of sensation has been noted. Weekers has also employed this method of treatment in cases of trichiasis (cicatricial and non-cicatricial) of the lower lid, and in some cases of persistent blepharospasm, with encouraging results.

J. B. Lawford.


(2) Verderame, by way of prelude to the description of an operation performed by him, gives a concise description of the main points of the various classes of operation performed for congenital ptosis. He describes three groups. The first group concerns lid shortening, the second reinforcing the action of the levator, as by advancement, while the third group is that in which the action of the levator is replaced by that of another muscle such as the frontalis or the superior rectus. Some fifty references to authors are given in connection with Verderame's description.
Verderame very truly points out that among the great number of operative procedures on record there is no one which will give good functional and aesthetic results in all cases, and that in deciding upon an operation one must study the case in all its bearings and perform that operation or modification of a particular operation which is most likely to give a good result in that particular case. Short of a complete transcription of the method adopted by Verderame in one case, in which the result was good, it would be useless to say more than that the procedure belongs to the third group mentioned above and involves stitching to the frontalis muscle.

Ernest Thomson.


(8) This disease of the upper eyelids was first described by E. Fuchs in 1896, and later by Weidler in America.

Benedict gives the following account of the affection:

"The disease is usually found in young persons as an intermittent swelling of the upper lids. It first makes its appearance soon after puberty as a transient oedema of the upper lids lasting for a few hours, the attacks coming on at intervals of a few days or a few weeks. Succeeding attacks last longer and appear more frequently, until a permanent swelling of the lid with great thinning of the skin and bagginess of the lids results. The bagginess and atrophy of the skin are the characteristics of the disease by which the name blepharochalasis is suggested. The onset is usually insidious, and its early manifestations are overlooked or misinterpreted. The diagnosis becomes clear only after permanent changes are brought about in the lids.

The disease is more commonly found in young girls, but has been observed in young boys and even in old men. Fuchs observed it in the lids of a man past middle life. It has been recognised in later life in persons who have had the swelling of the lid and atrophic appearance of the skin since early youth.

Blepharochalasis is to be found in two stages. The first is the intumescent stage or stage of oedema. The early attacks of swelling resemble those of angioneurotic oedema and last, usually, for from two to four days, without pain, and with only slight redness of the skin. After several attacks of swelling, one of two things occurs: (1) The swelling becomes constant with bagginess of the skin of the lid so that loose folds hang down over the margin, giving the appearance of water-filled bags, with the skin altered slightly in colour, very thin, and slightly folded or wrinkled; or (2) the swelling disappears entirely or occurs for only short times, at intervals of weeks or months, and the skin becomes reddish

"
brown and wrinkled, and is thrown into horizontal folds resembling brown wrinkled cigarette paper. The latter condition causes less interference with vision but may be accompanied by true ptosis, as shown by the first case of this series. The stage of wrinkling is the final stage of the disease. It has been confused with chronic atonic ptosis, which condition it indeed closely resembles, but the latter can be differentiated by the absence of attacks of swelling.

The only treatment suggested for the relief of blepharochalasis is excision of the redundant skin and subcutaneous tissue, with fixation of the lower margin of the wound to the upper margin of the tarsus. If the association of the disease with development of the endocrine glands can be substantiated, it is probable that some medical treatment can be applied for the relief during the intumescent stages.

A. F. MacCallan

IV.—MISCELLANEOUS


(1) In this paper Finnoff comes to the following conclusions with regard to ocular tuberculosis:

Tuberculosis of the eye is frequently responsible for ocular inflammations, as has been shown by histological evidence. It is rarely a primary condition, but the primary focus may be relatively inactive and difficult to find. The general characteristics of uncontaminated tuberculosis in most tissues are chronicity, freedom from pain, and the tendency to produce yellow avascular tubercles that break down into ulcers. The histological structure of the invaded tissue determines the morphology of the lesion and its clinical appearance. For this reason the clinical picture will differ with involvement of the various portions of the eye.

Tuberculosis of the orbit has its most frequent site at the temporal margin and about the zygoma. In the early stage there is marked induration and swelling over the rim of the orbit. Later the abscess ruptures through the skin and leaves a characteristic fistulous opening. On probing, denuded and roughened bone is felt. The condition may be confused with syphilitic or other forms of periostitis. Fistulous openings are not characteristic of syphilis, while multiple fistulae are usually found in actinomycosis.

Tuberculosis of the conjunctiva occurs in young persons and is accompanied by enlargement of the preauricular gland, and often
of the submaxillary and cervical glands. When the eyelid is everted an irregular dirty gray ulcer with scattered red loops of granulations, protruding through the necrotic material in its base, is seen. The ulcer has a punched out, mouse-eaten border, and the surrounding conjunctiva and tarsus are often a lardy yellowish red. The ulcer shows little disposition to heal, and the bulbar conjunctiva and cornea may be invaded, though the ulcer is usually confined to the tarsus. The condition must be distinguished from Parinaud’s conjunctivitis, and Pascheff’s ulcers. Blastomycosis and sporotrichosis must be eliminated by microscopical examination.

Tuberculosis of the skin of the eyelids is usually diagnosed as lupus by the dermatologist before being seen by the ophthalmic surgeon.

Tuberculosis of the lacrimal sac occurs as secondary to disease of the conjunctiva or nasal mucous membrane. The diagnosis can only be made by histological examination after removal of the sac.

Tuberculosis of the cornea is usually associated with tuberculosis of the uveal tract or sclera. The posterior layers of the cornea are associated embryologically with the uveal tract, hence it is not surprising that the disease sometimes assumes the typical features of the clinical form of interstitial keratitis. Primary tuberculous nodules have been described at the limbus, which slowly invade the cornea, a sclerosing keratitis.

It is doubtful if primary tuberculosis of the sclera exists. Tuberculosis of the iris when it occurs in the nodular form has a characteristic picture. It must be differentiated from syphilis, sympathetic ophthalmitis, ophthalmia nodosa and malignant tumours. There is a form of chronic iridocyclitis, not accompanied by tuberculous nodules, which is due to tuberculosis. It is characterized by inflammation of the iris with large mutton-fat deposits on the back of the cornea.

Tuberculosis of the choroid is met with in the miliary form or as larger single or multiple tubercles. The miliary form occurs at the terminal stage of a systemic tuberculosis. They are easily seen as slightly elevated, isolated, yellowish spots under the retinal vessels. They are about 1 mm. in diameter. Pigment changes do not occur until after the fourteenth day in patients who live for that length of time. In the other form one sees with the ophthalmoscope diffuse irregular, grayish yellow infiltrates. This stage does not last long, and the picture soon changes to one of irregular white patches of scar tissue bordered by pigment. This form may be mistaken for syphilis.

Tuberculosis of the retina may be secondary to a choroidal process, or it may develop independently of demonstrable lesions of the uveal tract. Recurrent haemorrhages into the retina and
vitreous are not infrequent accompaniments of tuberculosis in young persons. Numerous small spots of effusion in the macular region are sometimes present. The author also describes three types of retinal tuberculosis, miliary tubercles, conglobate, and tuberculosis of the retinal blood vessels.

_Tuberculosis of the optic nerve_ may be seen, though very rarely as a conglobate tubercle occupying the disc, transforming it into a white, shining tumour-like mass.

_The value of tuberculin in diagnosis and treatment_ is discussed rather fully; for this the original paper should be studied. The author is insistent that tuberculin should never be used for diagnostic or therapeutic purposes until a general physical examination has been made by a physician, who has special experience of tuberculosis of the lungs and other parts. If injudiciously administered in cases of active tuberculosis, tuberculin might so aggravate the disease that marked dissemination would occur or a fatal issue result.

A. F. MacCallan.

(2) Pagès (Rabat).—The treatment of so-called scrofulous and possibly tuberculous affections of the eye by ultra-violet rays in general application. (Du traitement des affections dites scrofulueuses et tuberculeuses possibles du globe oculaire par les Rayons ultra-violets en bains généraux.) _Arch. d'Obhtal._, April, 1928.

(2) The use of ultra-violet rays as a therapeutic measure in certain diseases of the eye has engaged Pagès' attention for some time. In this paper he draws attention to the kind of case in which this treatment is efficacious and discusses its value. Clinical notes of 13 treated cases are included. The majority of cases were those of phlyctenular conjunctivitis or keratoconjunctivitis, occurring in pale adenopathic children, often suffering also from marginal blepharitis and impetigo. In this class of case the results have been very satisfactory and rapidly attained. He has had no failure, but is unable to answer the question he asks as to the permanence of the cure. In reference to cases of tuberculosis of the uveal tract and "tuberculous" infiltration of the cornea, Pagès feels unable to speak decisively, although in several instances notable improvement followed the treatment.

Pagès' method of applying the ultra-violet rays does not differ materially from that in general use. He begins with an exposure of five minutes for each surface, increasing ultimately to 30 or 40 minutes. Treatment is carried out every second or third day, to the number of twenty or thirty. In two instances only was intolerance observed, the occurrence of diarrhoea necessitating a temporary suspension of treatment.

J. B. Lawford.