daylight electric lamp. The effect inside the room was exactly similar to that given by ordinary daylight passing through a window glazed with ground or opal glass, and the effect is singularly restful and pleasing to work in.

The Director, Sir Joseph E. Petavel, F.R.S. and his colleagues are to be warmly congratulated on the varied interest and sustained excellence of the exhibits.

ABSTRACTS

I.—DISEASE OF CONJUNCTIVA


(1) Webster Fox has interested himself in the trachoma problem among the North American Indians for some years. He states that there are about 400,000 Indians in the United States at the present time, and that it is doubtful if they have ever numbered more since the advent of Columbus. An official survey of the incidence of trachoma among them estimates that about 7 per cent. are infected. A serious attempt is being made by the Indian Office of the Government to ameliorate the effects of the disease, a number of ophthalmologists and nurses having been engaged for this purpose. In addition all the medical officers attached to the Indian Office are expected to make themselves familiar with the disease and its treatment.

Among the American ophthalmologists who are endeavouring to assist in the elucidation of the trachoma problem among the Indians is Francis Proctor. He hopes to get Noguchi to go out to New Mexico to start a trachoma research laboratory, and honoured a British ophthalmologist, with special experience of the disease, with an invitation to give his clinical assistance to Noguchi. If the matter is taken up in this enthusiastic way there is a real hope that progress will be made in reducing the incidence of trachoma, and its more serious sequelae.

A. F. MacCallan.


(2) At the Ophthalmological Institute of Hue, Collin has made a trial of autoserotherapy in the treatment of trachoma, as recommended by Angelucci of Naples. Collin considers that this
is a long and laborious method of treatment, and inferior to the local applications now in vogue. However, he noted in the cases treated a drying up of the secretion, a diminution of photophobia and pain, and diminution of pannus.

A. F. MacCallan.


Collin, practising in a very trachomatous region, has made trial in old-standing, severe and rebellious cases of trachoma, of the method of Nicati, which consists in the employment of "sterilizing injections" of sulphate of copper. There were twelve cases; only two were distinctly ameliorated, four were slightly improved and the remainder not improved. The reaction was very severe and the pain great. The author concludes that Nicati's method, though it may be suitable for recent cases, is untrustworthy in old-standing, severe cases with pannus, and, in such cases, he pins his faith to deep scarification, brossage, and instillations of copper sulphate.

Ernest Thomson.


In Ziegler's paper the opinion is advanced that the complications of trachoma are persistently maintained by two mechanical processes: (1) lid friction from blepharophimosis and trichiasis; (2) from perversion of the tears and obstruction of the duct by trachomatous invasion. It is clear that if blepharophimosis or trichiasis exist they must be dealt with surgically, but as a matter of experience they are actually present in a comparatively small percentage of trachoma cases, when several thousand such cases are reviewed. If obstruction of the lacrymal passages occurs, and this again is comparatively rare when thousands of cases are considered, it is due to the extension of the trachomatous process to the lining membrane of the lacrymal sac. No amount of probing as the author advised will alter this condition.

Galvanocautery puncture for the relief of trichiasis (the author means entropion) is advocated, an operation which depends on the formation of eschars and subsequent cicatrization. The effect can be obtained more surgically by a cutting operation under local anaesthesia, such as Streatfeild's operation, which can be performed in five minutes, and from which the dressing can be removed on the fifth day.

The treatment of pannus by peritomy has been largely abandoned by those who have a wide experience of trachoma. This abstention is based on a knowledge of the serious pathological changes in
the nutrition of the cornea which trachoma produces, which are remedied to some extent by the increased vascularity of pannus in old cases (stage 4 and late stage 3). The author advised this procedure and carried it out by the galvanocautery.

A. F. MacCallan.


(5) Zavalía gives the results of a series of 48 cases of trachoma in all stages of severity treated by the subconjunctival injection of copper sulphate. A solution of 1 per cent. copper is used with novocain, the first injection being of 0.25 c.c., the second of 0.5 c.c., and subsequent ones of 1 c.c. Of the 48 cases he considers 28 cured and 12 very much improved, that is, in 83 per cent. the result is eminently satisfactory; in three improvement was slight; and in five no change could be detected. He concludes that the subconjunctival injection of copper is a very valuable therapeutic measure in trachoma, easy to apply, and without bad after results. It is indicated in all clinical forms of the disease, except in the very acute stages, and in those very chronic conditions complicated by extensive cicatricial deformity, where the difficulty of diffusion of the injected mass renders the procedure impracticable. Early cases can thus be completely and promptly cured; later cases with more extensive involvement are much benefited, corneal ulceration and pannus responding well. A detailed record of the condition and progress of the series of cases is given.

W. S. Duke-Elder.

(6) Revue du Trachome, October, 1925.

(6) MacCallan and Peretz have a joint article on the surgical treatment of trichiasis and entropion of trachomatous origin. It contains much the same material as MacCallan's communication on the same subject to the Ophthalmic Convention (Trans. Ophthal. Soc., U.K., Vol. XLV, Pt. 1, 1925).

Colin and Schweisguth of the Ophthalmological Institute of Annam state that they have obtained good results in the treatment of early trachoma by the insufflation of vaporized tincture of iodine into the fornices of the conjunctiva above and below; in the case of the superior fornix the conjunctiva is pierced immediately behind the everted tarsus. They say that the injection is painless and that the chemosis produced lasts only two or three days. It would be interesting to learn how this procedure acts on the trachoma which is essentially a disease of the conjunctiva overlying the tarsus and of the tarsus itself.
Jean Sedan has an interesting article on the use of the salts of copper by the Romans in ocular therapeutics.

A. F. MacCallan.


(7) Pavia describes a hitherto unrecognized form of conjunctivitis characterized by follicular formation which cannot be considered trachomatous, which clinically resembles the commonly-occurring follicular conjunctivitis, but differs from it in histopathological characteristics.

Occurrence. The lesion occurs most frequently in tuberculous patients; indeed, according to Pavia, it is in some form almost an invariable accompaniment of this disease, especially in its milder forms—at any rate in South America. The study was made from a tuberculosis hospital, and included 414 patients; in 280 inpatients 208 were affected, and 72 were normal; and in 134 outpatients 110 were badly affected, 18 had slight lesions, and in six only were the conjunctivae healthy.

Clinical Signs. The first symptoms are irritation and itchiness under the upper lid, accompanied by slight photophobia. Secretion is scanty; in the early days there is just enough muco-pus to leave a crust at the inner canthus in the morning, but during exacerbations there may be a profuse discharge. The changes affect mainly the conjunctiva of the upper lid, which always shows considerable injection, and a greater or less number of punctate follicles. The mucosa is often thickened, in which case the underlying Meibomian glands are invisible. With the follicles are often seen numerous minute yellow spots.

Differential Diagnosis. The condition may be diagnosed clinically from other forms of follicular conjunctivitis: from acute follicular conjunctivitis (Axenfeld), and from the vesicular catarrh of Fuchs by the fact that in both of these the formation of follicles is a consequence of an acute inflammatory attack; from the follicular conjunctivitis described by Beal by the presence here of a regular network of papillae over the conjunctivae of both lids; from the common form of follicular conjunctivitis by the fact that here the lower lid and the recesses of the fornices and angles are affected, that there is little injection, and that the separate follicles are more distinct and sharply delimited; from trachoma by the absence of intense injection and inflammatory signs, the enormous conjunctival thickening, the involvement of the tarsus, the development of deformity, and the corneal complications; from vernal catarrh by the lack of the milky-white appearance of the mucosa;
from tuberculous conjunctivitis by the absence of necrotic foci; and from the irritative conditions resulting from the action of vegetable alkaloids, such as atropin.

Pathological Anatomy. The characteristic microscopic appearance is a considerable lymphocytic infiltration of the corium, which may either appear as a uniform stratum, or as isolated masses, the follicular appearance being given by invaginations of the mucosa between them. In some cases the condition may partake of both forms, the follicles being aggregations of a diffuse infiltration. When a regular layer is present the epithelium is histologically normal, except for the invaginations already mentioned which appear on section as glands; immediately underneath it is the layer of lymphocytic infiltration in which are a few mononuclear and occasionally some eosinophile cells. Where follicles are present an accumulation of lymphocytic cells alone is found. Histologically these are to be differentiated from the follicles of chronic follicular conjunctivitis by the presence in the latter of polymorphonuclear and plasma cells and the slight epithelial infiltration, while they lack the typical epithelioid and eosinophile cells of trachoma with the peri-follicular increase of fibrous tissue and new capillary vessels, the giant cells characteristic of tuberculous nodules, and the accompanying epithelial infiltration that occurs with vernal catarrh, Beal's follicular conjunctivitis, and other kindred chronic lesions.

The paper is illustrated by numerous histological photographs, and contains a statistical record of the cases examined.

W. S. Duke-Elder.


(8) In an interesting article which occupies an entire issue of the Anales González treats the subject of vernal catarrh, from the clinical point of view, exhaustively and authoritatively. The study is based on the observation of 73 personal cases, and the author discusses the literature in detail, and considers the manifestations of the disease not only as it occurs in Mexico, but all over the world. The essential features of the paper are here summarized.

Occurrence. The disease occurs all over the world; in Mexico the incidence is 4 to 5 per 1,000 diseases of the eye; in Birmingham it is much less—1 in 10,000 (Harrison Butler).

Sex. There is great predilection for the male sex—2:1—compared with females.

Age. It occurs most commonly in young children. Those below 3 years of age are immune; the highest incidence is between

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Disease of Conjunctiva

3 and 13 years of age (78 per cent.); 95 per cent. of cases occur below 20 years of age; and it is almost unknown to begin after 30 years of age.

Incidence. It has a seasonal and geographical incidence depending on temperature; city dwellers are slightly more liable to attack than the country population (the percentage incidence is 56:44); and it shows little class distinction.

There is little evidence of contagiousness; although in some cases several members of a family were affected, in 89 per cent. the cases were isolated.

It is often associated with nasal trouble, adenoids, cervical glands, etc., but 60 out of the 73 cases were in excellent health.

Aetiological Theories. Many have been advanced, but none is satisfactory.

1. Of microbial origin: this is possible, but all research has hitherto been negative. Nor has any parasite been found, although the eosinophilia suggests this.
2. Related to nasal and adenoid trouble, part of a lymphatic dyscrasia. Fifty per cent. of cases show no evidence of this.
3. Due to the action of light, especially ultra-violet light (Krieblich).
4. Due to the presence of a sensitizing agent (haematoporphyrin) in the blood (Junius).
5. Part of a vagotonic constitutional complex (Rossi).

The author thinks that the aetiology is probably composite. While bacterial origin is not excluded, he elaborates the thesis that the evidence in many of the patients of vasomotor, intestinal, cardiac, and emotional instability betrays an endocrine irregularity in youth leading to a vagotonic disposition resulting in a hyperplasia of the lymphatic tissues generally, an eosinophilia, and the production of haematoporphyrin in the blood which sensitizes the conjunctiva to light.

Clinical Features. It is a bilateral affection, characterized by very mild lacrymation and photophobia. In the early stages the signs of diagnostic importance are an injection and hyperaemia of the bulbar conjunctiva, which shows a diffuse dirty yellow colour, and a constant and characteristic irritation. This last is very intense and persistent, and seems almost pathognomonic.

Two diseased foci may develop. At the limbus the conjunctiva shows a blue-grey gelatinous elevation bulging over the cornea, usually limited to the upper segment, having, if it spreads, a predilection for the outer side (the Limbitis of Troncoso). It contains numerous characteristic spots, at first white, then grey, then yellow, comprised of epithelial follicles which rapidly degenerate (Trantas' Spots). On the tarsal conjunctiva of the upper lid a hyperaemia with papillary formation leads to the appearance of
numerous flat nodules, pale pink in colour, of cartilaginous consistency, separated by shallow sulci, giving the appearance of pavement cobble-stones, and leading to a pseudo-ptosis. These are limited to the tarsal conjunctiva, and do not invade the fornices or the lower lid.

The secretion is scanty, and typically contains eosinophiles, a diagnostic point which is to be interpreted with discrimination.

He recognizes the following clinical forms:
1. Bulbar, where the disease is limited to a limbitis, the commonest in Mexico.
2. Tarsal.
3. Mixed, including the lesions typical of 1 and 2.
4. Melanotic, where the yellow pigment is replaced by a melanotic appearance of the bulbar conjunctiva.
5. Rudimentary forms of the above represented by a few tarsal nodules or a small limbal arc, or one or two isolated limbal nodules.
6. Atypical forms, either in size of lesion, when gigantic tarsal or limbal vegetations occur; or in site, when the fornices or plica are affected.

Progress. A slow chronic disease, typically occurring in intermissions, sometimes with a tendency to spontaneous cure. The usual time for a cure he has found to be 3 to 6 years; it has never been less than one, and is seldom more than ten.

Complications. On the whole rarely of great severity.
1. Irregular astigmatism, 11 per cent.; sometimes marked, associated with the limbic lesion.
2. Keratoconus, 2.7 per cent.; especially when the limbitis extends to most of the corneal circumference.
3. Corneal infiltration, 5.5 per cent.; compared by Fuchs to an arcus senilis running parallel to the limbus some distance from it. Not a degeneration but a true infiltration derived from the affected limbus.
4. Marginal ulcers, 2.7 per cent.; associated with the infiltration.
5. A pannus-like extension from the limbus, 2.7 per cent.

Diagnosis. The limbic lesion is to be diagnosed from tuberculosis by the absence of ulceration and the presence of the irritation and itchiness. The tarsal lesion is to be diagnosed from trachoma by the fact that the follicles are cartilaginous in consistency, not soft; they are found on the tarsus only, not in the fornices; they are pinkish-white, not red; they are flat, not rounded; and the secretion contains eosinophiles. Rubbing the conjunctiva with a rod produces pain in trachoma, itchiness in vernal catarrh (Falta's Sign).

Treatment. Surgical treatment—excision and cauterization of the follicles—rarely indicated, and only when they are very exuberant.
Disease of Conjunctiva

Drugs—all caustics and irritants are contra-indicated—copper sulphate, zinc sulphate, silver nitrate. Sedatives to relieve the irritation and injection do much good; the author finds cocain and adrenalin as drops very efficacious. To decrease the proliferation yellow oxide of mercury is useful.

Physico-therapy: the exclusion of light or air acts very dramatically. To exclude ultra-violet light, the author prescribes Crookes' glasses. A change to the cold of a high altitude does good. X-rays are very helpful, but the best therapeutic agent would appear to be radium. Of the 73 patients 27 are cured, the majority after treatment lasting 3 to 6 years, 11 have been lost sight of, and 35 remain under treatment, which in some cases has lasted 10 and 20 years.

W. S. Duke-Elder.


(9) Hoffmann describes three cases of spring catarrh from the pathological point of view in great detail. They all occurred in youth, the ages of the patients being respectively 18, 8, and 17 years. They had intermissions in the symptoms, but one case continued definitely throughout the winter months.

In each case the upper tarsal conjunctiva was affected. In the first the papillae are described as gelatinous and opaque; in the second as jagged, amyloid, and white; in the third as milky white in colour. In one case only was there any thickening at the limbus, and eosinophiles were found in the smears of one.

Histologically the epithelium over the top of the papillae was thinned, while that between the nodules was much thickened. Immediately beneath the epithelium, over the surfaces of the excrescences, was a thick layer of connective tissue, containing many small pieces of fat. This tissue was highly vascularized, containing many dilated capillaries, surrounding which were many infiltrating cells of varying kinds, among which predominated eosinophiles, plasma cells, round cells, and mast cells. A similar infiltration was found in the pre-tarsal region, and in the tarsus itself there was an infiltration of plasma cells.

W. S. Duke-Elder.


(10) Within three months Jocqs and Reinflet have observed at the same clinic two practically identical cases of subconjunctival cysticercus. The cysts were enucleated and were found to be completely transparent without trace of scolex. One of them,
however, was umbilicated. The authors are satisfied in spite of the absence of scolex that these cysts were cysticercus cysts at their very earliest stage of development. The authors put the cases on record because of the rarity of conjunctival cysticercus and the still greater rarity of two in three months at one clinic.

Ernest Thomson.

(11) Estrada, A. T.—The treatment of eczematous conjunctivitis and keratitis by mercury and arsenic. (Conjunctivitis y queratitís eczematosas; su tratamiento por los mercuriales, el salvarsan y sus derivados.) Revista Oftal., Vol. I; p. 25, April, 1925.

(11) Estrada uses the term “eczematous kerato-conjunctivitis” to connote phlyctenular conjunctivitis, “strumous,” “im petroliginous,” “lymphatic,” and some forms of “tuberculous” conjunctivitis. The majority of the conditions thus considered are therefore mild, but the term also includes many chronic forms, rebellious to treatment, involving much disability to the cornea, and often gravely impairing vision.

Most of these conditions the author considers have been often too loosely connected with a tuberculous diathesis. He prefers to leave the question of aetiology open, but thinks that syphilis plays a large factor in many of them. He has consequently treated his cases with mercury and arsenic, and he reports very marked improvement in most, especially in the distressing subjective conditions. A bibliography of such treatment is appended.

W. S. Duke-Elder.


(12) Rebay describes a case of sclero-conjunctivitis interesting from the rôle played by tuberculin in the diagnosis and treatment. The patient, aged 32 years, came under observation first in 1917 with a painful injected focus at the limbus corneae of the left eye over which the sclera was staphylomatous, and adjacent to which there was an area of considerable superficial and deep corneal infiltration. There was a history of syphilitic infection although the Wassermann was negative, and consequently mercurial treatment was given. Two years later the condition was still progressive, the injection had increased, the anterior chamber had become shallow, and posterior synechiae had formed. In the hope that there might be a rheumatic element in the aetiology injections of sodium salicylate were given intravenously with no result. A culture of a piece of the tissue injected into a rabbit gave a negative
result for tubercle, but a course of tuberculin was started, when the patient was lost sight of. Four years later he returned with the scleritis spreading, the staphyloma increasing, and vision deteriorating. Inoculation tests were again negative for tubercle, but on giving tuberculin injections, a sharp focal reaction followed: these were therefore persisted in and the condition rapidly cleared up. A bibliography is appended.

W. S. DUKE-ELDER.

II.—GENERAL MEDICINE

(1) Ramsay, A. Maitland—The significance of albuminuric retinitis in chronic renal cirrhosis. The Practitioner, May, 1925.

(1) Maitland Ramsay reminds us that the general perspective of a case of renal cirrhosis should never be disturbed by assigning to the ocular symptoms an importance out of proportion to the others. The changes in the retina must be regarded as part and parcel of the general disorder.

Prognosis as regards Sight.—This depends upon the site of a haemorrhage and the extent of vascular degeneration. If, as so often happens, the macula is implicated, the patient will be unable to read or to recognize a friend in the street, but the peripheral vision may be quite intact. A haemorrhage in the course of time will be absorbed, but if the cause of the disease is not removed it is prone to recur, and even in favourable cases the effusion of blood may have damaged the macula beyond the power of complete recovery. In a similar manner a haemorrhage into the outer layers of the retina injures the layer of rods and cones, causing a blur in different parts of the field of vision. On the other hand, haemorrhages may occur in the inner layers of the retina (flame-shaped haemorrhages in the nerve fibre layer) and unless they are situated at the posterior pole of the eye round about the macular region, the patient may be unconscious of their presence. Vascular degeneration is more dangerous to sight than haemorrhage, because it is almost invariably progressive, and vision becomes steadily more and more impaired as the arterio-sclerosis increases.

Prognosis with regard to Life.—Albuminuric retinitis is always a late manifestation in the course of nephritis; it is associated as a rule with the phenomena incidental to high blood pressure; its onset is determined by vascular degeneration or by acute general toxaemia or by a combination of both of these conditions. In the cases in which signs of vascular degeneration predominate the prognosis is always grave, because the morbid changes in the blood-vessels are steadily progressive, not only in the arteries
of the retina, but also in those of the brain, the kidney, and other parts of the body—general arterio-capillary fibrosis. On the other hand, where the signs of acute toxaemia predominate a favourable prognosis may be given whenever it is possible to remove the cause of the toxaemia, e.g., toxic retinitis of pregnancy. Numerous cases of recovery from albuminuric retinitis are on record, but their interest depends not so much upon the disappearance of the ocular lesions as upon the fact of the removal of the cause operating both in the eye and in the kidney.

A. F. MacCallan.


(2) "This is not a lecture on diseases of the eye, although it consists of a series of clinical pictures drawn from ophthalmology." Ramsay is too modest if he supposes his article will not be of interest to ophthalmologists as well as general practitioners, for it embodies not only the results of his own very large clinical experience but those of other well-known writers on this important subject. If one may condense the article in a few words, its object is to show how renal insufficiency, not always detected by ordinary examination of the urine, may be reflected in the intraocular condition, whether that condition be glaucoma, retinal congestion with transient haemorrhages, central amblyopia, retro-bulbar neuritis, irido-cyclitis, or actual gross lesions due to arterio-sclerosis. And if there is one point which stands out more than others in the lecture it is the extreme importance to the practitioner of a working knowledge of the ophthalmoscope and of the conditions revealed by it which may give the correct clue in many a difficult case of more or less indefinite illness, illness in which, perhaps, there is no actual complaint of visual defect, and in which the true underlying condition is toxaemia.

Ernest Thomson.


(3) After the examination of a case of keratitis vesiculosa, which later resolved itself into one of keratitis profunda, Gruter assumed the general hypothesis that the herpes virus appears in two modifications, viz., a strong and a weaker one. The strong one produces the keratitis dendritica of man. The weaker one is a cause of various eye diseases, the cause of which has up till now been unknown. Among these are keratitis vesiculosa, keratitis
Ling, by emaciation, was found a first, the liver of second, the corneae junctival sac, ocular showed the protozoon, month's treatment chronic kala-azar—a found by virus was caused by the weaker virus. The lecturer proved the identity of the morphologically different pictures by immunity experiments. He succeeded also by a corresponding arrangement of experiments in changing the weaker virus into the stronger one, so producing different pictures with the same virus material.

In conformity with the eyes it was proved that for the skin herpes there were two types of virus. It is impossible to make out from the morphological picture, in the size, number, and arrangement of the different vesicles, which form of the virus they contain.

Vaccination on the eye of a rabbit establishes this. The stronger virus was found in herpes of the lids, the weaker in herpes zoster. It was further ascertained that impetigo contagiosa of man is caused by a mixed infection of weak or strong virus and the different cocci of the skin. It could be further ascertained that there was no relationship between the unknown virus of encephalitis lethargica and the herpes virus. The spreading of the virus takes place from the respiratory or the intestinal tract and thence to other mucous membranes. It can remain latent in certain subjects (virus carriers) and become active if the individual becomes debilitated. The infection to the eye takes place from the conjunctival sac, and gives rise to the herpetic appearances. This then is by ectogenous infection. Blood infection is either of ectogenous origin as in impetigo, or endogenous, as in herpes simplex and zoster. The peculiarity of the zoster type is that the virus has a specific affinity for the nervous system. This quality is found in the strong type as well as in the weak, and is well shown in the clinical picture of the disease.

S. SPENCE MEIGHAN.


(4) Ling examined the eyes of twenty patients suffering from kala-azar—a chronic or subacute febrile affection, characterized by emaciation, anaemia, leucopenia and progressive enlargement of the liver and spleen. The disease is caused by a minute protozoon, the Leishman-Donovan body. Four of his patients showed ocular lesions. There were two cases of xerosis. In the first, a boy under treatment for trachoma, the bulbar conjunctiva was found to be dry and greasy, Leishman-Donovan bodies were found by liver puncture, and the xerosis cleared up after one month's treatment with potassium antimony tartrate. In the second, the corneae were necrotic with a central perforation and
iris prolapse. The bulbar conjunctiva was dry and greasy. There were two cases of haemorrhagic retinitis, characterized by oedema of the retina round the disc margin and the presence of irregularly shaped areas of haemorrhage, disposed, for the most part, along the blood-vessels. In both cases, the haemorrhages disappeared rapidly under treatment and did not recur. Retinal haemorrhages occur in this disease only when there is a marked secondary anaemia.

F. A. Williamson-Noble.


(5) Lee, having seen the cases described by Ling, thought it worth while to control the findings by examination of a larger number of patients. After seeing 140 cases he gives the following summary. Retinal haemorrhages were found in four cases, the haemorrhages being multiple and closely related to the vessels round the disc. Marked anaemia was undoubtedly a factor in their production. Subconjunctival haemorrhages, when they occur, are due to the coughing and vomiting following the injection of potassium antimony tartrate.

F. A. Williamson-Noble.

(6) Nizetic, Zdravko (Niche).—A contribution to the study of anthrax of the eye and adjacent structures. (Contribution à l'étude du charbon de l'œil et de ses parties adjacentes.) *Arch. d'Ophthal.*, July, 1925.

(6) In this article dealing with cases of anthrax of the eyelids and surrounding tissues, under his care, Nizetic gives an unpleasant picture of the frequency of anthrax in Yugoslavia. The disease appears to be equally prevalent in Dalmatia and Serbia. In his own hospital service the writer saw 8 cases in 1923 and 5 cases during ten months of 1924. In another hospital serving a population of 60,000 inhabitants there were 14 cases reported in 1922, 8 in 1923, and 5 in the first six months of 1924.

In the treatment of this disease the writer speaks highly of the value of neosalvarsan given in addition to cauterization and other drastic local measures.

J. B. Lawford.

(7) Junès, Émile (Sfax, Tunis).—Xeroderma pigmentosum with ocular lesions. (Xeroderma pigmentosum avec lésions oculaires.) *Arch. d'Ophthal.*, April, 1925.

(7) Xeroderma pigmentosum is a rare disease. Since Kaposi first described it in 1870, only about 200 cases have been reported.
Of this total Tunis has had eighteen; hence in this not very populous country it is relatively frequent.

Junés' paper is long: in part of it he devotes his attention to the disease in its general aspects and discusses the questions concerning its aetiology such as its relation to congenital syphilis, to the effect of exposure to intense sunlight, and the transmissibility of the disorder from parent to child. The other part of his paper deals with the ocular manifestations. He reports in detail one case under his own observation and gives extracts from the notes of the eighteen other cases which have been recorded in Tunis. The family history of his patient (a girl, aged 7 years, the third child of cousins), gave a definite history of syphilis in the great grandparents. One of these (at once the maternal and paternal great-grandmother) was living and able to relate the history.

The ocular lesions in Junés' patient involved the eyelids and the eyeballs: the clinical description is lengthy and minute, and should be read in the original. Among the lesions was a finely pedunculated tumour of three months growth, attached to the limbus of the left eye and protruding between the eyelids. This was removed and the microscopic appearances are described as sarcomatous in type, showing long fusiform cells with large nuclei and a scanty vascular supply. No pigmented cells were found. The destructive character of xeroderma pigmentosum is well shown in two photographs and there are three drawings of the histological appearances of the tumour. A long and useful bibliography is appended.

J. B. Lawford.

(8) O'Connor, Roderic.—Head pains of ocular origin. California and Western Medicine, September, 1925.

(8) O'Connor commences with a plea for fuller examination from the ocular aspect so that early glaucoma or a cerebral tumour may not be overlooked—a state of affairs possible with the work of an optician. The more common causes of head pains are considered under the headings of Pupillary Asthenopia, Refractive Errors and Disturbances of the Extra-ocular Muscles, in the treatment of which latter condition operative measures are most strongly advised when less radical lines do not relieve symptoms. The ophthalmologist who does not undertake tenotomies or shortenings of muscles or who even goes further and warns patients against those who practise such measures is strongly condemned.

By hunting for hidden muscle defects the diagnosis of retinal asthenopia and neurasthenia may be much less frequently made in cases of headache.

R. C. Davenport.

(9) The occurrence of a case of epilepsy with rare complications in his clinic has induced Carreras to summarize the literature of the ocular manifestations of the idiopathic form of this disease. His case presents the following interesting features:

1. Complete paralysis of accommodation; the pupils, which were 4 mm. in diameter, reacted well to light, to convergence, and consensually. Such an occurrence is very rare; it has been reported by Hertel in three cases. Other dyscrasias in which this isolated paralysis is found to occur are, commonly, diphtheria, syphilis, botulism, and influenza; rarely, measles (Dreisch), scarlet fever (Schmidt Rimpler), typhus fever (Stephenson), and hysteria, and more rarely still, mumps (Baas), and dental infections.

2. Ophthalmoscopically the right disc was pale, resembling the picture of post-neuritic optic atrophy; the left disc, on the other hand, was hyperaemic, showing large dilated veins. On both discs there were large irregularly shaped haemorrhages. The field on the right side was much contracted, that on the left showed little impairment. Each one of these features is rarely met with in essential epilepsy, and their occurrence in one case is remarkable. The author concludes that the retinal haemorrhages are due to venous engorgement, occurring presumably during a seizure.

W. S. Duke-Elder.


(10) Arterio-sclerosis being a disease frequently discovered by the ophthalmic surgeon during a routine examination of the fundus, an abstract of the above-mentioned articles may be of interest.

Nicholls confines his remarks to arterio-sclerosis proper, “that form of arterial degeneration which comes insidiously, is the product of years, and of which the causes are as yet imperfectly apprehended.” The aorta contains a very large proportion of
elastic tissue, the smaller vessels less, and the arterioles are made up chiefly of muscle. The three anatomical varieties of arteriosclerosis are more or less correlated with these varieties in structure of the vessels. (1) The nodose, due to a fibroid thickening of the fatty intima which in the later stages becomes still thicker and converted into dense almost hyaline connective tissue with necrosis of the deeper portions, and some calcareous change. This type of disease is found in the larger arteries; (2) Mönchberg's sclerosis, common in the peripheral arteries, especially of the extremities. In these cases the media is principally affected and undergoes calcareous degeneration, the calcified material being laid down in rings; (3) endarteritis obliterans—improperly so called as it is not a primary inflammation—characterized by enormous thickening of considerable extents of the vessel walls. This causes marked diminution of the lumen and may progress to obliteration of the vessel. The smaller arteries and arterioles are those involved in the progress. From the aetiological aspect Nicholls divides the cases into the senile, toxic, and hyperpietic groups. Heredity has also a marked influence in bringing about early development of arterio-sclerosis. Of the toxic causes, chronic staphylococcal infection is probably the most important. The evidence with regard to alcohol is conflicting; Edgren, Hisch, and others believe that it is an important aetiological factor, while Romberg and Cabot can find no special relationship. The effect of constipation is to bring about putrefactive changes in the colon with the formation of diamines which have a direct effect in raising the blood pressure. Cholesterin is also thought to have an important rôle, since giving this substance to rabbits, produces changes similar to human arterio-sclerosis, and if the blood pressure be artificially raised, less cholesterin is required to produce the same effect, though rise of blood pressure alone will not produce the characteristic lesions. Cholesterin in the blood is increased by a diet rich in lipoids such as meat, milk, butter, and eggs. Treatment therefore should be on the following lines: search for toxic absorption from the teeth, tonsils, accessory sinuses, appendix, and intestinal tract generally. Correct constipation and draw up a moderate dietary, avoiding large quantities of eggs, milk, and butter.

Addison's work is based on the following experiments: The first by Chari and Froehlich of Vienna who found that a cat, reacting normally to adrenalin, if injected intravenously with a suitable solution of oxalic acid, has its blood pressure raised immediately from 110 mm. Hg. to 180-190 mm., and does not react further to adrenalin. If a corresponding solution of calcium chloride be now injected intravenously the blood pressure returns
to 110 mm. Hg. and the cat reacts normally to adrenalin. The second by Roeseman of Vienna who found that if smooth muscle be placed in a calcium-free Ringer's solution, the tonus of the muscle increases as calcium is added until the normal calcium concentration is reached, further increase of calcium causing progressive decrease of tonus. Addison was thus led to believe that hyperpiesis in human beings might be controlled by massive doses of calcium. He gives details of ten cases so treated. Calcium chloride was administered in amounts varying from 150 to 180 grains per diem with marked success. A typical case is that of a man with retinal haemorrhages and two reputed cerebral haemorrhages whose systolic blood pressure varied from 220 to 250 mm. Hg. Within three weeks of taking the calcium his blood pressure was down to 176 and a fortnight later it was 172. Occasionally the calcium may produce nausea and a sense of muscular weakness, if toleration is not developed it is advisable to use magnesia instead.

Bicak gives details of 23 cases with high blood pressure "taken without any selection whatever, and treated by subcutaneous injection of a sensitized vaccine of the colon bacillus 2,000,000,000 to the c.c." Exact details of dosage are not given, but apparently the first dose was about one minim, the later doses being increased and given every two or four days. Thus one reads of one patient receiving four injections amounting to five minims, another six injections, amounting to 11 minims and so on. In his conclusions Bicak notes the following: Improvement was prompt in all cases and marked in most. Several became uncomfortable when the pressure was reduced quickly but this discomfort was only temporary. Hyperpiesis is probably due to coli toxaemia because: (1) It was improved in all cases by the vaccine treatment; (2) when the pressure reaches normal vaccine treatment does not reduce it further; (3) dizziness is a symptom common to the three conditions of hypertension, constipation, and indigestion.

F. A. Williamson-Noble.

(11) Watson-Williams, E. (Clifton).—A case of latent nasal accessory sinus disease with mental and visual impairment; operation; recovery. Lancet, December 20, 1924.

(11) The special interest to ophthalmic surgeons in this case is the fact that impairment of visual acuity (R. 6/12; L. 6/24), and reduction in the extent of the visual fields, without scotoma, took place in a man, aged 42 years, who suffered from double purulent disease of the antra, and that visual acuity of 6/5 was obtained along with partial recovery of the fields after operation.
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(antrostomy). The mental condition also, which had previously threatened the asylum or the prison, was restored to normal.

Ernest Thomson.


(12) The very interesting investigation of Savin and Preston into the family and personal histories of fifty consecutive cases of phlyctenular disease and into their physical state, more especially with regard to the possibility of the presence of tubercle, seems to add—and it is probable that the authors will not object to the suggestion—to the negativity of our knowledge of this disease. "There is a great body of opinion that phlyctenules are due to tubercle... Under the circumstances we thought our phlyctenular cases would offer a rich field for the study of tubercle. We have been disappointed." The authors have succeeded in condensing so much into a few columns of the Lancet that it is quite difficult to do their work justice in an abstract of reasonable length. We must therefore be content to give only the outstanding points. Every oculist will do well to read the original, and if he has been puzzled over the causation of these cases he will be comforted to find that, after what appears to have been a fairly exhaustive investigation of the physical state of these fifty cases, the authors have to say at the end that "phlyctenular conjunctivitis is a disease of unknown aetiology."

The authors deal in the first place with their statistics of their case records and pick out a few of them for publication of details. Three of these constitute the foundation of a statement in the very closing words of the article, namely, "there seems to be reasonable ground for attributing the cause to endogenous toxaemia." These three cases are (1) a boy, aged 15 years, phlyctenular since ten years. Tonsils and adenoids having been removed and the antrum drained, the phlyctenules disappeared; (2) a woman, aged 25 years, pregnant, phlyctenules for the first time, phlyctenules disappeared the day after birth of child; (3) a girl, aged 17 years, the phlyctenules always appeared three days before menstruation.

In discussing their results the authors say that in many phlyctenular children there is no evidence to be found of tubercle either clinically or in the laboratory. Again, whereas tuberculosis is a disease without any very marked seasonal incidence, the phlyctenular cases investigated showed a very marked preference for the months about May and June and were at a minimum in August. The authors think, however, that the graph they reproduce may contain fallacies due to extraneous causes such as holidays, and ask for graphs to be made by other observers.
With regard to age incidence, the average was 10.4 years, and the oldest 25 years. They state that cases of phlyctenular conjunctivitis at over 30 years are almost unknown (though the reviewer thinks this is too strong a statement). Tuberculosis, on the other hand, occurs at all ages. Phlyctenular conjunctivitis is a disease of the hospital class. Tubercle is no respecter of persons. "It seems probable, therefore, that while tubercle may be present in many phlyctenular cases, it is not an essential factor in the causation of the disease. It is not disputed that tubercle may be a predisposing cause; but there is little to prove that it is anything more." The authors then reviewed their fifty cases from the standpoint of previous illnesses, possible sources of sepsis, etc., of which they had exhaustive notes. They compared the fifty cases with fifty normal refraction children of corresponding average age, and found that certain common children's diseases were quite ruled out as possible causes of phlyctenules. The graph shows that as regards measles, whooping cough, chicken-pox, pneumonia, German measles, and mumps, the control series had been quite as much affected as the phlyctenular. On the other hand more phlyctenular children had suffered from running noses and ears, and many more suffered from or had had removed, large tonsils and adenoids. This was confirmed by the examination of a further fifty controls. The home conditions were investigated and it was found that the more children are overcrowded the more they are predisposed to phlyctenules. Dental sepsis and intestinal toxaemia did not play an important part but malnutrition acted as a predisposing cause. The authors investigated the diet and found a great excess of carbohydrates. This is well illustrated by the pathetic replies of two children to the question what they would like to eat as a "luxurious feast." One replied: "A lot of bread with some real butter and a very large piece of cheese." The other wanted a steak and kidney pudding and a pint of stout.

The authors consider that their investigations tended to discredit the theory that phlyctenular conjunctivitis is always an outward manifestation of "tuberculi-toxaemia," and that the true aetiology of the disease is unknown. Their conclusions may be quoted in full. "Phlyctenular conjunctivitis is a disease of unknown aetiology but predisposed to by tuberculous infection (not always present), enlarged tonsils and adenoids, frequent colds, overcrowding, dirt and malnutrition. There seems to be reasonable ground for attributing the cause to endogenous toxaemia."

ERNST THOMPSON.