DISEASE OF CORNEA

ABSTRACTS

I.—DISEASE OF CORNEA

(1) Lagrange, Félix. — The treatment of keratoconus. (Traite-
ment du kératocone.) Arch. d’Ophthal., April, 1926.

(1) "The rational treatment of keratoconus cannot be estab-
lished until we possess accurate knowledge of the patho-
genesis of this affection. From this we are still distant." Ther-
apeutic measures have not hitherto been successful except in a few
instances and surgeons generally have had recourse to operative
methods of very varied type. Lagrange groups the operations
practised in cases of keratoconus under three headings: (1) those
which endeavour to modify the curvature of the cornea; (2) those
which aim at increasing the resistance of the cornea; (3) those
which seek to diminish the intraocular pressure. Lagrange has
adopted the third method for a number of years and in this paper
gives the results of the treatment of eleven cases of conical cornea
by "sclerecto-iridectomy." These cases have been reported in
detail in a thesis by Goddard, in 1925; in the present communi-
cation the author gives brief notes and general results. Nearly all
the patients were re-examined at an interval after the operation,
varying from fifteen years to twelve months. The visual results
are remarkably good and their lasting character affords evidence
of the value of this procedure in a class of case generally viewed
with apprehension. For the actual figures of each case the original
should be consulted; one example may be quoted: a female, aged
24 years, with vision of 1/20 in each eye with cylindrical correction;
operation in December, 1909 and January, 1910: fifteen years later
vision in each eye was 1/3 with cylindrical correction. The
operation performed by Lagrange in these cases is that which
he practises in the treatment of glaucoma and which has been
frequently described.

J. B. Lawford.

(2) Trantas, A. (Athens). — Terrien’s peripheral ectasia of the
cornea. (Ectasie périphérique de la cornée de Terrien.) (Kera-

(2) This description by Trantas of a rare corneal condition first
described in detail by Terrien, though observed earlier by Schmid-
Rimpler and by Frank, does not lend itself to abstraction on
account of the fact that it is mainly a minute modern description of
the condition as seen with the slit-lamp. But, as the condition is
so rare it is thought well to quote here the general appearances
as given by the author. "The marginal strip (bande) of the
cornea, 2 mm. wide, is depressed around the whole circumference
and transformed into a groove which is deeper on the limbus side. To the naked eye this groove appears transparent, but, with oblique illumination and through an aplanatic loupe, it appears to be slightly grey and is traversed by very fine vessels which are vascular loops prolonged from the limbus into the groove. . . . It is to be noted also that the bottom of the groove shows a fine striation formed of delicate grey lines of irregular figure passing more or less transversely across the groove or sometimes taking a more oblique direction. The interstices between these lines, which are as fine as the lines themselves, appear transparent. The sensitiveness of the groove is unimpaired. Upwards, at about one and a half hours, the groove is interrupted by a small staphy- loma-like elevation, quite limpid in appearance, the rounded surface of which is polished, etc." At this point one must leave the reader to study the slit-lamp anatomy in the original. Enough has been given here to allow him to identify the kind of condition described. A bibliography is appended and at the end of the bibliography there is a paragraph which seems to indicate that the original communication, probably read before some society, was accompanied by illustrations which are not here reproduced.

Ernest Thomson.

(3) Brusselmans (Antwerp).—A case of recurrent ulceration of the corneal margin associated with the catamenia. (Un cas d'ulcération de la cornée cataméniale récidivante.) *La Clin Ophtal.*, October, 1925.

(3) Brusselmans' case raises in one's mind the recollection of past events, of cases of mysterious eye disease in which perhaps one had not understood the cause. The patient, aged 31 years, developed a marginal ulcer of the cornea three successive times in association with the first day of the catamenia and also in association with ovarian dysmenorrhoea, eruptions on the face, and constipation. Under treatment the dysmenorrhoea disappeared, and, when the fourth month came round the corneal ulceration did not recur. The author discusses the pathogenesis, but comes to no very sure conclusion beyond the fact of the definite association between the two conditions.

Ernest Thomson.


(4) There does not seem to be anything specially new about the three cases reported by Elewaut, but the article reminds us that this condition (and that of xerosis) depends upon the absence of Vitamine A, from the food of the individual, usually an infant. In the treatment everything depends upon the early recognition
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of the malady and the immediate administration of food containing Vitamine A. The author employs cod-liver oil. He points out that while Vitamine A. is contained in butter and cream it will not be contained in milk unless the mother has it in her diet. The reviewer presumes that the author means that normal cow's milk contains Vitamine A. but that human milk will not contain it if not present in the diet.

Ernest Thomson.

(5) Passow, Arnold (Munich).—On the prospect of light-therapy and other methods of treatment in corneal ulcer, particularly in ulcus serpens. (Über die Aussichten der Lichttherapie und anderer Behandlungsmethoden beim Hornhautgeschwür, besonders bei Ulcus serpens.) Arch. f. Augenheilk., December, 1925.

(5) This contribution is divided into two parts. The first deals with the superficial and deep action of light on bacteria as shown in experiments on cultures of staphylococcus pyogenes aureus; the second with the relative merits of light-therapy and other methods of treatment in corneal ulcer as brought out in experiments on the cornea of the rabbit with bacillus suisepticus. For the experimental details the interested reader is referred to the original. Passow's findings are as follow:

The concentrated light of a metal-filament lamp of high intensity coupled with Rose bengal sensitzation is best suited for the treatment of corneal ulcers; it is less dangerous and more practical to use than other sources of light and where it failed the other kinds of irradiation were also ineffective. This refers to superficial mild ulcers. In severe ulcer with deep purulent infiltration of the cornea irradiation, mechanical scraping out and optochin are individually ineffective. Sound healing can be secured only by means of the steam cautery (98° C.) or the electric cautery (120° C.). On account of its greater intensity and deeper penetration the latter produces denser scars. Cauterization by one of these means followed by Rose bengal sensitization and long-waved irradiation offers the best prospect of rapid healing and delicate scarring. The irradiation, while killing such deep-lying germs as escape the cautery, obviously stimulates cell proliferation particularly of the epithelium.

How far the results of experiments on animals are applicable to man remains to be seen. The analogous course of corneal ulcer produced by bacillus suisepticus in the rabbit and the pneumococcal ulcus serpens in man points to their probable applicability.

The author has already started the above described treatment in ulcus serpens in man. But the cases he has treated are as yet too few to enable him to draw any definite conclusions.

D. V. GirI.

(6) Meyer reports the case of a very badly-nourished woman, aged 60 years, who suffered from Mooren's ulcer first of one eye and then of the other. A great variety of remedies was tried, including conjunctival flaps and tarsorrhaphy, but without effect, until a trial was made of the suggestion of Elewaut—as to keratomalacia—to employ cod-liver oil. Immediate improvement took place and the patient was cured with a very extensive leucoma of the right eye and "vision intégrale" of the left eye. It is not stated how long a time elapsed between the commencement of cod-liver oil treatment and actual healing of the ulcers.

Ernest Thomson.

II.—TUMOURS


(1) Carcinoma of the conjunctiva tarsi is very rare, and the case reported by Bachsetz is interesting from several points of view—diagnosis, histology, and treatment. Prior to seeing the author, the patient, a woman, aged 36 years, noticed a painless nodule on the under surface of the upper lid which was incised on the assumption that it was a stye; on exuberant "granulation" tissue forming thereafter, this was incised and scraped several times. On coming under observation a dark-red cauliflower-like mass presented, fixed to the tarsal plate, which was surrounded by a considerable amount of infiltration and induration. This was completely removed under local anaesthesia, and histological examination showed it to be a carcinoma. As an extensive plastic operation was refused, two exposures to X-rays were given, the first through the lid, the second directly on to the everted lid, in spite of which renewed growth of the tumour was almost immediately apparent. Radium treatment was therefore given, which at once brought on rapid improvement, and ultimate disappearance of the growth, which has shown no evidence of renewed activity during the three years which have now elapsed since its occurrence. This, Bachsetz suggests, helps to refute the view
frequently advocated that in such cases where one form of radiation fails the other will be similarly ineffectual.

Histologically the superficial portion of the tumour corresponded to the basal-celled type of carcinoma in its deeper parts, and at the edges it showed the characteristics of a stratified epithelial carcinoma. Typically arranged cylindrical cells predominated, with ovoid, intensely staining nuclei showing irregular chromatin formation, arranged in masses in whose centres were frequently degenerative foci, such as are often found in the basal-celled carcinomata of the face and lids. These masses ran inwards in processes each of which changed abruptly into one or more processes which showed all the characteristics of the carcinomata of pavement epithelium with large cell nests in their midst. These processes ran far into the surrounding tissue, which was infiltrated with polymorphs, lymphocytes, plasma cells, and some eosinophiles. Since the epithelium had been extensively removed in the previous treatment, no connection could be traced between the neoplasm and the normal epithelium, but the edges of the growth showed a stratified conformation of very great activity as was shown by numerous atypical mitotic figures and giant cell systems.

A piece of lacrymal gland showed nothing abnormal except secondary inflammatory changes.

The Literature: In his search of the literature for such cases, Bachsetz finds few references.

Lagrange: Two cases—tubular carcinoma on lower lid; and pavement carcinoma on the upper.

Ischreyt: a case after long-standing trachoma.

Scalinci: also after trachoma.

Ulbrich: after a conjunctival wound (in the case described, the conjunctiva was healthy).

The following three cases showed carcinoma involving the tarsal conjunctiva whose primary origin was uncertain:

Hirschberg: tumour extending from upper fornix to free margin of lid.

Purtscher: tumour involving both tarsal and bulbar conjunctiva, caruncle and cornea.

Maklakoff: an alveolar carcinoma probably from a Meibomian gland.

Maklakoff.—Ref. Lagrange.

W. S. DUKE-ELDER.
An epithelioma growing from the limbus over the cornea is described by Belgeri and Pavia which is interesting in its histological characteristics.

The patient, aged 58 years, had, commencing on the limbus of the right eye on the inner side, a tumour of irregular, nodular surface, extending, from a base involving about a quarter of the circumference of the cornea, towards the centre in a roughly triangular shape. On the conjunctiva, running to the internal angle, a vascularized thickening formed a pseudopterygium. Histological examination after excision determined it as being a stratified epithelioma with kerato-hyaline degeneration.

The conjunctiva was of normal thickness almost to the limbus, where a deep hyperplasia occurred, the superficial level being maintained. The superficial cells of the tumour had a regular laminar distribution, underneath which were masses of atypical polymorphous cells, whose deeper layers took on a palisade arrangement, while the neoplasm was sharply delimited by a hyaline membrane. Throughout there were small localized areas and larger irregular zones of kerato-hyaline degeneration, where the nuclei were irregular and took on staining badly, and the whole tissue appeared as a homogeneous mass.

W. S. Duke-Elder.

At his clinic at Tokio out of a total of 25,000 cases Hidano met two cases of primary tumour of the optic nerve, the one in a girl, aged 8 months, the other in a girl, aged 3 years. Both were removed by a Krönlein operation.

Histological examination of both tumours demonstrated them to be gliomatous in nature. The main mass of the tumour occupied the intervaginal space in both cases; in the first case the dura had been burst through over a considerable area, and at one spot its inner layers were infiltrated with neoplastic cells; in the second the dura was unaffected. In the first case the continuity of the pia-arachnoid was completely interrupted in passing through the tumour mass, while in the second it could always be followed. The primary development of the tumour was in the optic nerve itself, the new-growth in the sub-dural space being a direct continuation of a similar focus in the former structure.
addition to the gliomatous cells, there was a considerable amount of connective tissue, which Hidano believes to be secondary in origin, and not to be a typical feature or an invariable accompaniment of these tumours. There were also necrotic areas in the tumour and in the associated part of the nerve: these did not contain mucus, the presence of which Hidano therefore does not regard as a characteristic feature. He thinks this process one of atrophy followed by necrosis due simply to lack of adequate blood supply. No evidence of any inflammatory process could be made out.

The literature of the subject is dealt with, and the author regards most of the primary intra-dural tumours of the optic nerve, described by other writers as fibromata, sarcomata, myromata, etc., as being all in reality of a gliomatous nature.

W. S. Duke-Elder.


(4) The case of a girl, aged 15 years, who presented a ciliary sarcoma one year after a contusion of the eye in the site corresponding to that occupied by the growth, has stimulated Nitsch to make a detailed study of the causal relationship between the two—if any. The literature he has gathered (the development of sarcoma in this region with a history of trauma) embraces 141 cases, and the conclusion arrived at is that, in the scientific sense, there is no connection at all between the growth and the trauma. The study was conducted under six headings: the relationship between antecedent trauma and the age and sex of the patient, the form, pigment content, and cellular structure of the tumour, and the rate of its growth. In each case the result was negative; any relation is incidental, and it cannot be shown that trauma is here responsible for stimulating aberrant growth. Even in the reported cases of "surface" sarcomata, there is no proof of a traumatic genesis: relatively few of such give a history of trauma, and a small proportion only of those giving such a history were of the "surface" variety.

W. S. Duke-Elder.


(5) Posey's case, aged 20 years, was first seen by him in 1906. There was nothing abnormal beyond an error of refraction. In
1915, a small pigmented vascular mass was found in the conjunctiva of the left lower lid. This was treated by dessication, which removed the growth but left a small pigment stain. In 1917 and 1918, there were no signs of recurrence. In 1924, a polypoid, non-pigmented vascular sarcoma was removed from the upper fornix, the base being treated with radium. The conjunctiva slowly became normal again, but after some weeks the glands in the side of the neck became involved, and had to be removed. Some months later the lacrymal gland became involved and then the lower lid at the site of the original growth. Radium and X-rays were used during this time, but in spite of all treatment, the patient died from extension to the lungs and brain within barely a year of the affection of the upper lid.

The author considers that all small pigmented patches embedded in the conjunctiva should therefore be regarded with suspicion. Though they are rarely malignant before 30 years of age, they frequently become so later on.

F. A. Williamson-Noble.

BOOK NOTICES


This book cannot fail to be of interest and value to ophthalmic surgeons. The author has already written an account of new growths of the eye in Zweifel-Payr’s Handbook, where, however, he was cramped by the limitation of space. He has written the volume under review with the object of facilitating the earlier diagnosis and treatment of these growths, though it, in fact, forms a complete treatise upon the subject. The general plan of the book is to consider the tumours affecting the eye and its appendages from front to back. Thus, the first section contains malignant tumours of the lid, the next those of the conjunctiva, then the cornea, iris and so on. Orbital neoplasms are considered, also optic nerve tumours, even as far back as the intra-cranial portion of the nerve.

Each condition receives an excellent clinical as well as pathological account and the difficulties in diagnosis are well explained. In the section on diagnosis of sarcoma of the choroid for example, one is reminded that transillumination is not necessarily infallible since the growth may be a flat one and sufficiently thin to cast no definite shadow. Typical clinical aphorisms are: (1) that every