with France, Belgium and Germany, the Committee express the opinion that the compensation is in many cases unnecessary, as mild cases of nystagmus do not necessarily involve incapacity for work, and in fact, often persist for years without the knowledge of the patient. In the opinion of the Lancet, the most important conclusion is that "most cases of miners' nystagmus are only partially incapacitated; they benefit physically and psychologically by work. Some require work above ground; others are fit for suitable work below ground. All men in this group should receive every encouragement to start work as soon as possible." Our contemporary considers that this report throws down a challenge, and that if its conclusions are justified a drastic alteration in the law of compensation is called for, but that the legislator may fairly demand some sort of unanimity of opinion among the experts. The important points at issue are first, whether the psychoneurotic symptoms are an essential part of the disease, and secondly, whether or not slight cases of nystagmus tend to become worse with a continuance of underground work.

ABSTRACTS

I.—XEROPHTHALMIA


(1) Yudkin and Lambert by feeding six young rats, weighing from 45 to 50 grammes, on a diet consisting of casein, mineral salts, starch, lard, and yeast—that is to say, a diet deficient in fat-soluble vitamine A—found that after 45 to 60 days there was a watery lacrimation with a sero-sanguineous secretion from the conjunctiva. The rats were then killed and the eyes examined microscopically. In all cases early focal lesions were present in the epithelial lining of the eyelids. The changes consisted of localized degeneration foci of the epidermis with cellular infiltration which in some of the animals extended into the subepidermal tissue. The cornea was not involved. It is concluded that the keratitis resulting from deficiency in fat-soluble vitamine A does not begin in the cornea but in the lids, as in some of the severer types of acute and chronic conjunctivitis which are often complicated by corneal injury, with infection and ulceration of that structure.

S.S.

Yudkin and Lambert studied the lacrimal glands in rats suffering from experimental xerophthalmia. In some of the six early cases the epithelium of the glands was vacuolated and of ragged outline. Of the eight advanced cases one showed a widespread suppurative inflammatory process with polymorphonuclear leucocytes filling the tubules. In three there were foci of necrosis, and in the four remaining cases the parenchymal cells were possibly slightly altered. Three out of four cured cases showed mononuclear cell accumulation, foci of atrophy, or fibrosis. In the glands of the six normal animals definite changes were found in one only. The authors reach the following tentative conclusions:—(1) The lacrimal gland may be the seat of marked pathological change, either degenerative or inflammatory in nature. (2) Such changes are much more marked in xerophthalmic than in normal rats. (3) Variations in the size, form, and staining properties of the cells are frequently seen and are probably referable to functional disturbances related to the ophthalmia. (4) These changes may account for some of the phenomena of xerophthalmia, particularly the drying of the cornea in the later stage of the condition.

S.S.


Blegvad describes experiments on animals by which xerophthalmia had been produced, namely, by withholding fat-soluble vitamine A. The primary cause of the disease in human beings is the lack of fat-soluble vitamine A in the organism. He collected all cases of keratomalacia in Denmark during the years 1909 to 1920 inclusive. The total included 434 cases in children and 19 cases in adults, of whom 18 were inmates of two asylums for imbeciles, while in a few digestive or other severe disease was evident. In the great majority of cases, however, there was a combination of the two factors. The disease varied much in frequency during the period reviewed. The variation in the cases of keratomalacia was found to correspond with variations in the consumption of vegetable margarine, which is markedly poor in fat-soluble vitamine A. During the years 1918 and 1919 the incidence of the disease declined, and during the years named no vegetable margarine was made in Denmark and butter was rationed, so that even the poorest ate butter. The greatest
number of cases was observed during winter and spring. This may be explained by the fact that cows milk had become poorer and poorer in fat-soluble vitamin A, while on changing to pasture at the beginning of summer it became richer in that material, and so able to prevent the appearance of the disease during the summer.

S.S.

II.—RECENT JAPANESE OPHTHALMIC LITERATURE

We are indebted to Professor Komoto for the following abstracts translated from Japanese into German. They are taken from the Nippon Gaukakai Zasti for the first half of 1920.

(1) Funai thi.—Description of six cases of corneal ulcer due to the bacillus fluorescens.

(1). The ulcer was at the edge of a corneal pannus in all six cases. The observer satisfied himself of the presence of the fluorescens bacillus by smear preparations and cultivation. In experiments on animals only a slight haziness at the edge of the cornea was produced, neither ulceration nor infiltration appeared. The observer considers that the ulceration so frequently found at the edge of a pannus may be due to such fluorescens bacilli.

(2) Shioji.—On a rare form of metastatic eye cancer.

(2) Shioji reported two years previously on a man in whom the right eye had been removed on account of choroidal cancer (metastasis after mammary cancer operation), and examined histologically.

Two months after the enucleation of the right eye the sight of the left eye failed and the patient suffered from headache, loss of appetite, debility and wasting. Finally, before death, the retina became completely detached. At the post-mortem examination metastases were found in the lung, liver, spleen, kidneys, dura mater and thigh bones, and in the eye itself, cancer cell infiltrates in the choroid, papilla, optic nerve, and also in several ciliary nerves.

(3) Miyashita.—Action of Remijin against the pneumococcus.

(3) Remijin is a preparation from the native plant Remijia pedunculata introduced by Professor Takasashi, which is chemically identical with optochin, and is much used in Japan in pneumococcal affections. Miyashita tested a watery solution of chloride of Remijin against the pneumococcus.
1. Researches on Remijin in vitro showed in ten strains of pneumococcus an equal action to that of optochin used in the same concentration.

2. In the Japanese mouse subcutaneous injection of Remijin solution was protective against pneumococcal infection.

3. In experimental pneumococcal infection of the rabbit's cornea Remijin chloride solution gave a result both clinically visible and demonstrable by cultivation.

(4) Nakamura and Mukai.—Influence of intravenous injections on the albumin content of the aqueous.

(4) These observers injected intravenously and hypodermically in the rabbit solutions of “fluoresceinkalium, “fluoresceinnatrium,” iodide of soda, ferrocyanide of potash, chlorate of soda, and chlorate of calcium, and investigated the albumin content of the aqueous.

Result as follows:—

1. Even slightly poisonous solutions, if injected intravenously, increase the albumen, while more strongly poisonous solutions given by the mouth or subcutaneously fail to cause any change.

2. By intravenous injection of hypertonic solutions the albumin content is markedly increased, but little effect being produced by the injection of hypotonic solutions even in large quantity.

3. Intravenous injection of hypertonic solution of calcium chlorate increases the albumen content while the injection of a hypotonic solution diminishes it.

(5) Okazaki.—Experimental researches on interstitial keratitis (conclusion).

(5) The observer inserted, like Uhlenhut and Mulzer, small pieces of rabbit testicle with syphilitic induration into the anterior chamber of healthy rabbits. Positive results followed in the shape of the development of interstitial keratitis in from two weeks to three months after the injection. The observer compares the results of specific therapy and comes to the conclusion that an intravenous injection of salvarsan as well as the local use of salvarsan serum gives the best results. The earlier the treatment the better the working. Corneal tissue once degenerated cannot be influenced by specific therapy.

(6) Suemori.—On the entry of lung distoma into the lid and orbital tissue.

(6) Taniguzi, Myake, and Wakabayashi have already described this appearance in Japan. The author here describes some animal experiments. After placing the worms in the conjunctival sac, small bloody spots are soon seen indicating the point of entry of the parasite. On examination later the worms are found in
different places, and where they have died small abscesses are seen. What is of particular interest is that the worms pass along the scleral wall and enter the anterior part (corresponding to the ciliary vessels), so that we find at various spots small haemorrhages and necroses accompanied by cell infiltration. The author has in this way observed haemorrhages in the anterior chamber and vitreous as well as in the iris, ciliary body and choroid. The worms often are found outside the orbit. The experiment is more successful with dogs than rabbits. Later the worms are to be found in the chest and lungs, but how they reach the lung from the orbit is not easy to see.

(7) Suganuma.—On tuberculous sclero-keratitis.

(7) Three globes with primary tuberculous sclero-keratitis were examined anatomically. In two of them a flat swelling, the size of the little finger, subconjunctivally close to the cornea was observed clinically. At this place the cornea showed more or less parenchymatous infiltration. At the chamber angle and on the corneal surface several miliary nodules were found. Anatomically the author found in the two cases tuberculous nodules with central caseation in the sclera. The nodules at the chamber angle and on the surface of the cornea were tuberculous. The entire uveal tract was intact.

In the third eye the deepest layer of the sclera in the entire ciliary region was tuberculously infiltrated in a ring shape. Clinically in this case there was no scleral swelling, but only a dark red circumcorneal injection. All three eyes were taken from girls of 10, 11, and 18 years of age respectively.

(8) Ashikaga.—Researches on the blind spot, macular vessels, scotoma, etc., by a special method of visual field testing.

(8) The method consists of the use of a white card with two black spots. On the fixation of one of these spots the other, corresponding to the blind spot disappears. By testing the field of vision with a small blue object all small defects are readily recognized so that nearly all vessels and the macular ring itself can be demonstrated directly on the card.

(9) Komoto.—A case of dislocation of the globe in a new born child.

(9) This case came under observation on the second day after birth with the right globe dislocated. The cause was probably some birth injury, as there was also a large swelling on the cheek of the same side which proved to be a lymphangioma, and might have acted as an obstruction to delivery. Instruments were not used at the birth. A large intraorbital haemorrhage seemed to
have caused the eye to be luxated since an incision showed a large collection of blood. Komoto also refers to a case in which dislocation followed a blow on a tree stump when the patient was intoxicated, as also a case of spontaneous dislocation described in an old Japanese book and attributed to a congenital muscle weakness.

(10) Fusihara.—A case of plasmoma of the bulbar conjunctiva.

(10) The patient was a soldier with a tumour of yellow red colour situated midway between the fornix and the limbus of the cornea. The cells of the tumour were plasma cells. The author considers that in his case at least there was no trace of a trachomatous origin in opposition to the view of many writers that plasmomata in this situation are the after-result of trachoma.

(11) Okazaki.—Wassermann reaction in the aqueous.

(11) The author found a positive Wassermann reaction in the aqueous in several cases of syphilitic eye disease in which the general reaction also was positive. He investigated the quantitative relations between the complement forming immunizing bodies of the blood serum and aqueous. In syphilitic eye disease without inflammatory symptoms, such as optic atrophy, the relationship was 1: 1/300—1/600. In eye disease with marked inflammatory symptoms the amount of immunizing body in the aqueous was more or less increased.

(12) Ashikaga.—On the diagnosis of trachoma with the help of staining the conjunctiva.

(12) The author finds that those persons who suffer from swollen tonsils are more liable to trachoma. He also finds that the use of fluorescein cause the papillae to stand out as red points with yellow surrounding grooves. In trachoma the papillae are irregularly enlarged, while in simple conjunctivitis the papillae are of more or less equal size.

(13) Koyanagi.—On the nature of so-called idiopathic night-blindness.

(13) A ten-year-old child died after prolonged jaundice and abdominal pain. Before death there was night blindness, but no change observable in the fundus. Cirrhosis of the liver was found post-mortem. The eye was frozen and section stained with Sudan for fat. The pigment epithelium contained large fat bodies chiefly in the outer part of the epithelial cells, but none was found in the rods and cones. He comes to the conclusion that night-blindness is probably caused by such fatty degeneration.
Masuda.—Clinical researches on the so-called retinitis centralis.

(14) In the form of central retinitis so frequently seen in Japan the macula either appears normal or slightly hazy; only with Thörner's or Gulstrand's ophthalmoscope a yellow white focus or collection of yellow white spots may frequently be made out. The subjective symptoms are very various; in recent cases a round, dark disc over the fixation spot may be noted. Mikropsia may be recognized by the patient or only detected on investigation. In the latter case the prognosis is better. In mikropsia the object often seems removed to a considerable distance. The complaint is also made that the point of fixation seems excavated. The Wassermann reaction is generally negative.

Masuda.—Histological appearance in an eye removed on account of dislocation of the lens into the vitreous followed by secondary glaucoma.

PART 1.

(15) On a degenerative atrophy and pigmentary infiltration of the retina through contusion without perforation.

A twenty-five year old peasant had received a severe blow on the left eye from the springing back of a branch. When first seen a month later the lids and conjunctiva were very swollen, the globe proptosed with a large scleral staphyloma at the equator above. The cornea showed a white opacity corresponding to the palpebral fissure, and in its upper part was diffusely opaque in the manner usual in glaucoma, whereas in the lower part it was relatively clear, sufficiently so to enable a view of the iris to be obtained, which structure was partly adherent to the cornea and partly defective. The lens appeared to be absent. The cornea in addition had some small vesicles. The eye was practically blind, hand movements being recognizable only in the periphery.

In the enucleated eye degeneration was present in the macular area. The retinal cells and proper retinal tissue had for the most part disappeared and been replaced by glial tissue, and this was infiltrated with pigment. In the pigment epithelial layer the cells had partly disappeared, but in other spots had been considerably increased and passed in columns into the degenerated retinal tissue. The retinal vessels were much thickened and often surrounded with pigment. Beneath the retina there was connective tissue and proliferation of the glial tissue. The observer considers that this atrophic condition is due to the contusion as he has frequently seen in animal experiments and described in Professor Komoto's Festschrift.
On the origin of vesicular keratitis.

In serial sections made through the small vesicles noted on the surface of the cornea Bowman’s membrane shows a funnel-shaped defect. This corresponds to the nerve canals which are somewhat distended. Under many of the vesicles the membrane is completely destroyed and the corneal tissue more or less altered with increase of the corneal cells and round-celled infiltration. The walls of the vesicles are made up of epithelial cells or epithelial cells and spindle cells, which latter must have been derived from the corneal parenchyma after the destruction of Bowman’s membrane. The vesicles are either empty or contain a small number of round cells and nuclei or spindle cells. The author considers that the vesicles are not formed simply as a result of oedema, but also from a lesion of Bowman’s membrane or the superficial layers of the corneal parenchyma.

III.—THE LACRIMAL APPARATUS

(1) Rutherford, L. T.—The lacrimal gland in surgical anaesthesia. 
_Lancet_, May 10, 1919.

(1) We would call the attention of readers to the article in the _Lancet_ by the late L. T. Rutherford on the regulation of anaesthesia by observation of the lacrimal secretion. The author’s conclusions are (1) that the appearance of a lacrimal secretion during anaesthesia is a constant phenomenon, (2) that it bears a definite relation to the depth of narcosis, (3) that, since the exceptions to the general rule are easily recognized, the value of this sign must be at once apparent.

_Ernest Thomson._


(2) In the transactions of the above Society for 1921 the report on the value of the probe in the treatment of lacrimal disease is presented by Villard.

He does not, however, restrict himself to the letter of his subject, but reviews the treatment of lacrimal affections in all its aspects, in a report which consists of nine chapters, occupying 195 pages. It obviously does not lend itself to summary analysis.

He states that an interval of thirty years has elapsed since the
Subject was last selected for presentation and discussion by the above Society.

In the work of preparation he has studied over 800 original articles extending over the last fifty years, and has received communications from seventy members of the Society giving him the benefit of their conclusions drawn from personal experience. The present-day treatment of lacrimal affections is, therefore, very fully gone into.

Stress is laid upon the fact that in the treatment of epiphora the lacrimal passages should not be interfered with until every reflex cause has been eliminated, and in this regard attention is drawn to the importance of refractive errors as a causal factor.

Villard considers that, in view of the close dependence of lacrimal upon nasal conditions, every oculist should in future be familiar with the rudiments of rhinology if the treatment of many forms of lacrimal disease is not to pass into the hands of the rhinologist.

With regard to catheterization his conclusion is that small probes are likely to cause a false passage and Nos. 2, 3, and 4 Bowman are best. The use of the largest probes is condemned as being injurious to the mucous membrane.

A cure may follow catheterization in cases of epiphora without regurgitation, especially in young subjects and in recent cases; nasal treatment must be associated if necessary. Recurrence may, however, occur. Removal of the accessory lacrimal gland is advocated in certain cases.

Inflammatory conditions of the mucous membrane receive due notice. The effect of inflammation is to cause (a) obstruction, (b) retention of septic products and, (c) alteration of the walls. In such cases probing ameliorates but seldom cures. External massage should be associated.

Suppression of the lacrimal passages is fully discussed, and the indications for extirpation of the sac are given and are numerous. It would still appear to be the most reliable method and to give the most satisfactory results. In some cases it is necessary to associate with it excision of the palpebral portion of the gland.

The more recent methods of opening directly into the sac by the nasal route are outlined.

The only condition in which the passage of the probe never fails to cure is in cases of congenital dacryo-cystitis, and even here massage over the sac with expectant treatment will sometimes suffice.

Conclusions.—A cure is the rule in congenital dacryo-cystitis: it may follow also in certain cases of epiphora. A relative cure may be obtained in more chronic cases, where the "uncorking"
of the lacrimal passages by means of the probe is accompanied by the use of curative lotions, but recurrences are the rule.

In cystitis with suppuration, in cases of fistula and tuberculosis, excision or extirpation either by caustics or the cautery, is the best resource at present, but may at some future date be replaced by intranasal methods.

CHARLES KILLICK.


Coppez records the case of a child, two years old when first seen in 1908, who had congenital ptosis, epicanthus, and absence of lacrimal secretion. There was myopia (ascertained at a later date) of 1.5 D., without other anomalies of the eyes; V.A. full. The child never cries emotionally or reflexly. Inhalation of ammonia causes smarting and contraction of the lids, but no lacrimation. Inconvenience seems very trifling, amounting to a slight feeling of dryness which causes rubbing of the eyes sometimes. Coppez states that there is only one other case recorded, that by Morton in the first volume of the British Medical Journal, p. 108. He suggests that there may be some connection between epicanthus and ptosis and this condition and asks that such cases be attentively studied from this point of view.

ERNEST THOMSON.


MacMillan contributes a note on an operation which he has devised, being disappointed with the results of a series of West operations which he had performed. He reasoned that if one could transplant the transversely incised sac with its natural lumen into the nose, there would be less likelihood of closure than where a portion was excised from the lateral wall. His method is as follows:—The usual skin incision as for excision of the lacrimal sac; the orbicularis muscle is exposed and drawn upwards; the sac covered by fascia is then brought into view. An incision is made through the periostium in front of the anterior border of the sac, and the latter is raised from its bed by means of a blunt dissector. The posterior border is then freed, and the sac can be lifted up entire from the tendon of the beginning of the lacrimal canal. The fascia is incised at the point where it becomes continuous with the floor of the orbit. The sac is then cut transversely as far down in the canal as possible. A long silk suture is passed through the fascia at the lower end. A
small probe is inserted into the sac through the canaliculus to make certain that the sac has been divided above the obstruction. The sac is now drawn upwards by means of the long suture, and a retractor. The periostium of the posterior wall of the lacrimal fossa is scraped aside, and the lacrimal bone is exposed; an opening into the nose through the bone is then made by means of a sharp probe, and gently enlarged. The orifice thus made lies beneath the middle turbinate on the nasal side, and in front of the infundibulum. Forceps are passed into the nostril, and both ends of the suture are drawn down bringing the fascia and the sac into the nose. The suture is tied over a plug of gauze placed in the nostril, and the lacrimal canal is curetted. Skin suture, pad and bandage dressing as usual. The nasal plug is taken out on the second day; the suture in the fascia on the fifth day. General anaesthesia was employed in the earlier cases, but later, local anaesthesia was found to be sufficient. The latter method consisted in the application of two pledgets of cotton wool dipped in 10 per cent. cocain with adrenalin and squeezed dry. The infraorbital nerve was blocked by the Smith method (injection of 20 minims of a 2 per cent. solution of cocain at the orifice of the infraorbital canal, the needle being passed in the bicuspid fossa, parallel to the long axis of the second bicuspid tooth). In addition 10 minims were injected subcutaneously at and above the tendo oculi.

J. Hamilton McIlroy.

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BOOK NOTICES


This book is intended for the general practitioner and, therefore, deals with the subject of eye diseases chiefly from a diagnostic and therapeutic standpoint. That it should have reached a fifth edition shows that it has met with approval. The arrangement is somewhat unusual, the first seventy-five pages dealing with general medical treatment. With the limited space at his disposal such subjects as the general treatment, diagnostic reactions, etc., of tuberculosis might have been left to text-books on general medicine, and some more information given on the ophthalmoscope, and such a subject as retinoscopy, which only receives mention but no description, although subjective methods