facts are incontrovertible. They have been brought to the notice of the different Governments; and yet comparatively little has been done. Some of the responsible administrators appear to suppose that the medical officers, when they bring these matters forward, are riding hobbies, or are striving to advance their own interests under cover of Government service. What is wanted is a larger conception of the situation and a more statesmanlike method of dealing with it. Were the question seen as it really is, even "the war" would not have been allowed to stand in the way of energetic action being undertaken, not merely in Calcutta, but in many other parts of India, which would remove the stain of insufficient hospital accommodation for dealing with eye disease. According to the latest census, there are 600,000 totally blind persons in India. This does not include the partially blind, or those going blind. Much of this blindness is preventable; much is curable. The very first means for fighting this scourge is so to equip the few big hospitals at the educational centres that the medical men turned out from them shall have an opportunity, and indeed the best possible opportunity, of learning all that a student can be taught of the treatment of disease of the eye. The need is self-evident, and parsimony is worse than a mistake; it is a sin against responsibility.

ABSTRACTS

I.—AETIOLOGY OF LEBER'S DISEASE


Zentmayer's report deals with two families, A and B. In the first (A) there were four children, of whom three were alive and two of them affected with hereditary atrophy of the optic nerve. In the first patient, who was affected at thirty years of age, the pituitary fossa was, according to an X-ray examination by Dr. Henry K. Pancoast, 13 mm. in an antero-posterior direction by 12 mm. in depth. In the second patient, affected at twenty-nine years of age, the cure of nasal polypi and purulent ethmoiditis failed to arrest the progressive loss of vision. The fossa measured 10 mm. by 11 mm., i.e., was on the border line of the normal. In the second family (B) there were nine children, namely, 5 males and 4 females. Of these the first and seventh child,
both males, were affected, while the third, a female, showed symptoms suggestive of incipient pituitary disease. In the first affected the pituitary fossa measured 12 mm. by 10 mm. In the second the fossa was 13 mm. by 12 mm. Two unaffected members of the family were submitted to X-ray examination. The pituitary fossa in the first was 9 mm. by 9 mm., and in the second 12 mm. by 10 mm. In the latter, vision was normal, but the left papilla was obscured and slightly prominent; the visual fields were concentrically contracted for form and colour, and a minute central relative scotoma was present in the right field.

Zentmayer concludes that, while his observations are in no way conclusive, his results are sufficiently uniform to merit attention. The normal pituitary fossa varies greatly in size and often oversteps the limits set as maximum normal, while our present knowledge of heredity in connection with disorders of the pituitary body is too vague to permit of assertive statements.

S. S.

II.—THE ORIGIN OF DIABETIC CATARACT


Schanz was explaining his views on the action of light on living albumen in reducing the more soluble to the less soluble varieties at a Dresden Congress, when Schieck objected that the development of diabetic cataract seemed opposed to this theory, but Meyer suggested that possibly the presence of sugar aided the action of light. Schanz then prepared a sterile solution of lens albumen from pigs' eyes. He put 50 c.cm. of this solution into each of six Ehrlenmeyer flasks. To two of the flasks he added 10 c.cm. of a solution of 60 per cent. of grape sugar in salt solution and 1·2 c.cm. of acetone. To the next two he added the sugar solution only and 1·2 c.cm. of salt solution to equalize the bulk. The remaining two flasks were diluted to the same extent with salt solution only. Of each pair, one was kept in the dark, while the other was exposed to daylight on two sunny days. As he had still 70 c.cm. of the original albumen solution left, he divided this between two flasks, to one of which he added acetone only, and to the other an equal amount of salt solution. On testing the contents with very dilute acetic acid, a precipitate was always produced in the tubes exposed to light, after the addition of an amount of acetic acid that produced no precipitate in the unexposed tubes. Of the three, the opacity
was most marked in the tube that had sugar plus acetone, next in the tube that had the sugar only, and least in the one that contained only albumen. The two tubes, of which one had acetone only and the other no addition, were both exposed to light. The opacity was much more marked in the acetone tube. Schanz considers that these experiments show that the presence of sugar and acetone aid the action of light in rendering the lens opaque.

E. E. H.

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**III.—RETINITIS CIRCINATA**


This communication dealing with the aetiology of retinitis circinata represents a thesis presented by Blake for membership in the American Ophthalmological Society.

The frequency of the affection, first described by Hutchinson under the title of "Symmetrical, Central Choroido-retinal Disease occurring in Senile Persons" (*Royal London Ophthalmic Hospital Reports*, 1876), is commonly estimated at one case in every 10,000 eye patients, but Blake considers this to be an under-estimate. The disease is essentially in the nature of a degenerative process. Females are affected in the proportion of two to each male. The youngest patient, whose case was reported by Weltert, was aged 12 years, and the oldest is the one now brought forward by Blake, aged 80 years.

The author summarizes the different explanations that have been offered for the aetiology of the disease as follows.—(1) That the white plaques are the result of an albuminous transudate into the deeper layers of the retina (Fuchs). (2) That they result from changes in the blood-vessels (Weeks and Nuel). (3) That they result from the fatty degeneration of previous haemorrhages (de Wecker). (4) That they simply represent long-continued oedema (Marcus Gunn and de Schweinitz). (5) That they result from obliteration of the vessels supplying the macular region, and degeneration of the parts nourished by them (Goldzieher). (6) That the white spots are the outcome of clusters of fat cells following haemorrhage (Ammann). Blake's own feeling is that retinitis circinata usually develops from a previous haemorrhagic process in the retina, although he does not assert that demonstrable haemorrhages are always present. In the case brought forward by him retinitis circinata followed positively in the wake of haemorrhages.

S. S.
IV.—ANAESTHESIA AND ANALGESIA IN EYE OPERATIONS


(1) Seidel, who is a firm believer in the use of local anaesthesia in enucleation of the globe and orbital exenteration, has devised a method for reaching the posterior part of the orbit in septic conditions without risk of infection from the surface. In non-septic cases his procedure is as follows: One drop of 10 per cent. cocain every minute for five minutes into the conjunctival sac; then 1-2 c.cm. of a solution containing 1 per cent. novocain in physiological salt, to each 10 c.cm. of which 5 drops of adrenalin are added, is injected about 4 mm. from the limbus. The lids are then closed for 1-2 minutes and massaged to diffuse the fluid. The next step consists in the introduction of a stout, hollow needle connected with a 2 c.cm. syringe above, below, nasal and temporal over the muscular insertions. The needle, with gradual pressure on the piston, is pushed in to a point half way between the optic foramen and the entrance of the optic nerve into the globe. If this is carefully done so that the needle is pushed on as the tissue becomes oedematous no pain will be caused. About half the syringe full is used during the introduction and the remainder injected direct behind the globe. After the injection of 2 c.cm. from each of the four points, the lids will be oedematous and the globe proptosed. The operation should begin twenty minutes later. In ordinary cases Seidel has found this procedure perfectly satisfactory, but in cases where the conjunctiva is in a septic state or where the pressure on the globe would cause the extrusion of septic material the method would run the risk of infecting the deeper parts of the orbit. He has, therefore, devised the procedure described in the present paper. This consists in the introduction of a smaller quantity of fluid of a higher concentration at the apex of the orbit, from below upwards, through the hinder third of the inferior orbital fissure, in a direction at right angles to the axis of the orbit. The place of insertion of the needle lies about a finger’s breadth under the anterior part of the superior maxilla. After disinfection of the skin with iodine, and infiltration with a 1 per cent. novocain and adrenalin solution, about 6 c.cm. of the same solution are injected on the
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posterior surface of the superior maxilla, and the neighbourhood of the pterygo-palatine fossa. Five minutes later a stronger needle, about 8 cm. in length, like those used in lumbar puncture, is inserted at the level of the anterior border of the masseter towards a point a thumb's breadth to the opposite side of the junction of the coronal and sagittal sutures; this point is best marked by the index finger of the other hand. Diagrams of the direction taken, both in the skull and the living patient, are given in the paper and help to explain the instructions. When the needle has penetrated about 4.5 cm. considerable resistance to its further progress will be felt. This is due to the fibrous tissue that closes the orbital fissure. When this structure is perforated some pain is felt, as it has not been reached by the preceding infiltration. The syringe should contain 2 c.cm. of a 4 per cent. novocain-adrenalin solution, of which one half should now be injected slowly. If the needle is in the proper position a slight amount of exophthalmos will appear. The needle is then pushed on 0.5—1 cm. further and another 1 c.cm. injected. By pushing the needle on a further 2 cm. the orbital wall is reached close to the optic foramen. 4 c.cm. of the fluid should now be injected to act as a retrobulbar depot. During this last injection the syringe is slowly drawn back. In this way some 4—6 cm. of the fluid is injected. It is important to give the solution plenty of time to act before starting the operation. Seidel advises waiting for at least twenty minutes. No serious complications have occurred.

E. E. H.


(2) Dagg recommends rectal anaesthesia, according to Gwathmey, of New York, in operations upon the eye, although it does not appear from the communication that he has ever actually carried it out for that purpose.

The night before operation, the patient is given a cathartic, and 4 and 2 hours prior to operation, enemata. Successful anaesthesia implies a clean mucous membrane. One hour prior to being taken into the theatre, morphia (1/8 to 1/3 grain) and atropin (1/150 grain) are administered. The oil-ether consists of one part of oil (cotton seed or olive) and three parts of ether. The quantity for use is determined by the body weight of the patient, being one ounce of oil-ether to every 20 pounds of weight. In no case, however, must more than 8 ounces of oil-ether be employed. With the patient in the Sim position, the liquid is allowed to run slowly through a soft rubber catheter, introduced for 4 or 5 inches into the rectum. The patient is often asleep by the time that the injection is complete. The stage of anaesthesia is shortened if a towel be thrown over the patient's head (difficult, one would imagine, in operations on the
eye), so as to retain a portion of the expired air. In possibly one-half of the cases, a few whiffs of ether are necessary to get the stage of excitement into satisfactory surgical anaesthesia. In an emergency, the bowel is at once emptied by repeated douches of plain water. Under any circumstances, at the end of the operation, the bowel is emptied by the passage of a colonic tube and massage of the colon, together with flushing with water, after which Dagg injects 2 to 4 ounces of oil. Rectal anaesthesia is contra-indicated in the presence of haemorrhoids, colitis, and so forth.

S. S.


(3) Gwathmey and Karsner make a preliminary report upon the induction of general analgesia by the oral administration of certain drugs a few minutes before painful dressings are made or short operations are performed, which they consider as safer than general anaesthesia, often employed for the purposes named. In the case of operations, however, it may be necessary to supplement the analgesia by a hypodermic injection of morphia, or even by light inhalation anaesthesia. Experiments were made upon rabbits with nikalgin (quinin and urea hydrochloride), trional, morphin tartrate, paraldehyde, ether in olive oil (25 per cent. and 50 per cent.), paraldehyde in ether in olive oil, and some other combinations, The best results in rabbits were obtained by the use of ether in oil. As regards patients, the authors recommend the following formula: Chloroform, 3 ss. to 3 i.; ether and liquid paraffin of each 3 iii. ss. In giving the mixture, a mouthful of port wine is retained for about thirty seconds and then swallowed; the ether mixture is next taken, and is followed at once by another dose of port wine. It is possible that the plan advocated by Gwathmey and Karsner may prove of service in eye work.

S. S.

V.—TUMOURS

(1) Siegrist (Berne).—Demonstration of various ophthalmoscopic conditions, etc. (Demonstration verschiedener ophthalmoskopischer Befunde u.s.w.). Bericht der Ophthalmologischen Gesellschaft, Heidelberg, 1912.

(1) Siegrist showed some beautiful drawings of the fundus which are to be found in a plate attached to the Bericht. One shows a rare tumour formation, perhaps due to echinococcus. The patient had cerebral symptoms and ultimately died, but no autopsy was
made. Another plate shows a tumour at the posterior pole of the globe in a child who had lost the other eye because of glioma. The exact nature of the case was doubtful. The plates are well worthy of careful study.

T. Harrison Butler.


(2) H. Friedenwald refers in the first place to the case of giant cell sarcoma of the orbit reported by Flemming and Parsons in 1905, and then supposed to be almost unique. He then reports a case of his own in which the clinical diagnosis was malignant growth of the lacrimal gland, and the pathological report "giant cell sarcoma originating in the orbital periosteum." The pathologist, Standish McCleary, remarks that while myeloplaxes are normal constituents of the bone marrow, they may, under pathological conditions, be produced by the periosteum. Usually tumours of this type have a very low grade of malignancy as there is little tendency to recurrence and metastasis, except in those cases in which there is a great abundance of small round cells, which by proliferation confer the malignant features upon the tumour. He further remarks that, as the growth in this particular case possesses more round cells than are usually encountered in those tumours which are confidently expected not to recur, it will be interesting to know the subsequent history.

Friedenwald is fortunate in being able to report that after four and a half years there has been no recurrence.

Ernest Thomson.


(3) The very interesting and instructive article by Alt should be carefully studied by those who happen to come across any of these rare cases.

Alt classifies haemangioma into teleangiectasia and cavernoma of the eyelid. The former consists of innumerable densely packed small blood-vessels which are not exactly capillaries, and which cannot with certainty be called arteries or veins. Such a tumour has usually a lobulated appearance, due to numerous connective tissue septa which traverse it. According to Ogawa, these tumours grow, not by the throwing out of side branches, but by a continued growth in the length of the pre-formed vessels, gradually pushing the surrounding tissues aside. In the cavernoma, on the other hand, we find large cavities containing blood, separated by thin connective tissue walls, lined with endothelium. Such a tumour
may sometimes represent only one large and continually enlarging cavity, due, probably, to the giving way of previously existing septa.

Teleangiectatic tumours usually appear as reddish-blue smooth or lobulated swellings, while the cavernomata are more bluish or purplish.

Until recently Alt has followed with considerable success H. Knapp's practice of excising haemangiomata of the eyelid. In the cases which have not been previously subjected to any treatment, it is usually possible to remove the tumour as a whole and thoroughly. The scar is generally small and not disfiguring. The author describes a case in which there had been previous treatment which had not succeeded. In this case Alt's operation of excision was not a success either.

In spite of the usually good result of excision, if there are means to produce the shrinkage and disappearance of such tumours without any scar at all, it is better to use such means. In Alt's opinion, the cauterity and electrolysis do not fall under this head. The more modern methods consist of injections into the tumour of boiling water or of absolute alcohol, and the treatment with CO₂ snow. The last two he has tried. The absolute alcohol seemed to be of little use, but the freezing method, although slow, has given him a very good result in one case. In a little more than a year he froze the tumour twenty-one times. He began with twenty to twenty-five seconds, and has gradually increased the duration up to one minute. There is no longer anything to be felt of a tumour, yet the nasal part of the lid is to a small extent evidently without tarsal tissue, and also is devoid of cilia. The part still has not receded to its normal position, yet the child's eye is wide open, and the result is good.

Ernest Thomson.


(4) Weidler publishes the findings in a case of spontaneous rupture of the globe, as the result of severe haemorrhage from a sarcoma of the choroid. He gives the case frequency of sarcoma of the uveal tract as one in 1,700 patients, and discusses the aetiology of the glaucomatous phenomena. The increase of tension may be due to (1) inflammatory changes; (2) mechanical pressure, direct or indirect, upon the angle of the chamber; (3) very doubtfully to pressure on vasa vorticosa; and (4) likewise doubtfully to deposits in the angle of the chamber (such deposits being cellular, fibrinous, or pigmentary). Rupture, in the course of intra-ocular sarcoma, takes place through the centre of the cornea, instead of at the usual seat, viz., the sclero-corneal margin. Such cases are very apt to be set down as due to haemorrhagic glaucoma.

(3) Cases of the kind reported by Lamb are not common. In a man, 38 years of age, there appeared a bulging of the left eye six months after an injury to the head. The condition as first described had been going on for three and a half years. Pain began ten months after the swelling, and the vision failed. When he was seen by the author the eye protruded 9 mm. in front of the right, vision was 20/100, and a firm tumour could be felt above and to the outer side of the eye. A modified Krönlein operation exposed a cystic tumour containing a thick mahogany-brown fluid, with yellowish glistening particles believed to be cholesterol crystals derived from the degeneration of an old subperiosteal blood collection. The cyst contents were evacuated and the cavity was packed and drained. There was recovery with good vision and disappearance of the proptosis. A. J. Ballantyne.


(6) Metastatic growths in the extra-ocular muscles are rare. Bietti records the following case. A man, 65 years of age, had complained of pain in the lumbar region for three years. For two months there had been bilateral exophthalmos and paresis of the left facial nerve. Vision was 5/20 R. and 5/15 L. There was slight limitation of movement in the left eye, especially out and down. Weakness of the right arm and leg developed. At a later stage the exophthalmos diminished in the right eye but increased in the left. Before death there were recognizable tumour masses in the thoracic and abdominal walls. Post-mortem there was found to be a large retroperitoneal growth in the neighbourhood of the lumbar spinal column. The brain contained a number of foci which were the seat of haemorrhage. There was a nodule in the left inferior rectus muscle, and another in the genu of the facial nerve. Other metastases were found in the thyroid gland, the left kidney and suprarenal, the posterior mediastinal and other glands, and in the psoas and quadratus lumborum muscles. The right kidney and suprarenal were involved in the retroperitoneal mass. Bietti considers the tumour to be an endothelioma, probably originating in the suprarenal capsule. A. J. Ballantyne.

(7) A woman, aged 41 years, consulted Capron in 1911. Some brownish deposits on the palpebral and ocular conjunctiva of one eye then noticed were stated to have been present for eight years and to have caused no trouble. A year later, a German ophthalmic surgeon removed a tumour (3/4 inch by 3/4 inch) from the ocular conjunctiva of the affected eye, and described it as "a strongly pigmented melanosarcoma, rich in cells." Towards the end of 1914, the margin of the cornea became superficially ulcerated at several points, and when the ulcerations had healed, pigmented spots appeared in situ. The eye was removed in 1915, and radium was successfully applied to a couple of small pigmented spots that had been left. Pathologically, the growths could scarcely be said to invade the eyeball, except quite superficially near the limbus, where they had commenced to attack the corneal stroma.

S. S.


(8) Up till 1904 Saemisch was able to find records of five cases of carcinoma of the caruncle which he regarded as authentic. Since that date two further cases have been reported, one of which is somewhat uncertain. Dernehl here puts another case on record. The patient was a man of 56. Both caruncles were affected. A macroscopic and two microscopic illustrations are given.

A. J. Ballantyne.


(9) Birch-Hirschfeld describes a case of this kind in a man, 57 years of age, who for four years had observed the protrusion of one eye. There was marked displacement of the globe forwards and downwards, total absence of movement upwards and outwards, diminution of vision, hypermetropic astigmatism, and slight hyperaemia of the optic disc. He removed the tumour by Kronlein's operation. After a few months the position of the eye, its movement, and vision were completely restored, while the astigmatism caused by the pressure of the growth on the globe had disappeared; six years after the operation there was no sign of recurrence of the tumour or metastasis.

The new growth was examined microscopically; and its appearances, illustrated by two photographs and two coloured drawings, are described in detail.

A study of this case led the author to make a critical survey of similar cases, so far as the description of the different writers justified, in his opinion, their inclusion in this class. He collected
75 cases from the literature to which he had access, and the result of this review is embodied in the following conclusions:

1. A considerable number of the new growths found in the lacrimal gland and its immediate neighbourhood, and described under a great variety of names, may be grouped together in one class under the general term of "mixed tumours."

Birch-Hirschfeld comments at the outset of his paper on the frequent difficulty, or even impossibility, of determining the exact point of origin of these new growths, and hence believes that many cases have been recorded as tumours of the lacrimal gland which had no connection whatever with it; while others (true cases) have been reported merely as tumours of the orbit.

2. Histologically, these tumours are distinguished by their very complex structure. They contain cells of epithelial character, arranged in the form of glandular lumina, or reticular bands, or solid processes. Morphologically, these cells are in parts absolutely identical with true epithelium: a basement membrane, typical intercellular bridges, and sometimes, too, signs of cornification can be observed. The variability in the relation of these parenchyma cells to the surrounding stroma, which at one time shows myxomatous or hyaline degeneration, and at another contains islands of cartilage, produces a picture that in many places closely resembles an endothelioma, in others typical cylindroma, in other parts, again, adeno- or chondro-myxoma.

3. In the writer's opinion, the view of the epithelial character of the parenchyma is a more probable one than that of their endothelial origin, and he has been led to this conclusion in great measure by the study of mixed tumours of the salivary glands, to which lacrimal growths bear a very close resemblance.

It is this complex structure, with the varying arrangement and shape of the cells, the changes in the stroma, and the variation in the relative preponderance of cells or stroma, that has given rise to the great diversity in the reports of cases by different writers, and to the bewildering confusion in the terminology of these growths. The question of the origin of the cells is one on which there is a great difference of opinion, a similar difference being found among pathologists with regard to tumours of the salivary glands. It may be noted that in his "Pathology of the Eye," Parsons distinctly favours the view of the endothelial origin of the parenchyma, and regards these neoplasms as almost identical with the mixed growths of the salivary glands, which are generally held to be endothelial. He pertinently points to the occurrence of cartilage in the tumours as difficult to explain on the theory of an epiblastic origin. Birch-Hirschfeld, however, as stated, takes the opposite view, and, according to him, there is, on the Continent at least, a considerable weight of opinion in favour of their epithelial character.
4. Clinically, the mixed tumours of the lacrimal gland are at first of very slow growth; but they may suddenly take on a much more rapid development and become malignant, inasmuch as they may lead to local recurrence and the formation of metastatic growths.

5. The early and complete removal of the tumour is therefore indicated, and this should be carried out as far as possible by blunt dissection.

6. As regards the origin of these mixed tumours in the lacrimal and salivary glands, it is very probable that they are due to a displacement of embryonic tissue through some disturbance in the process of development (possibly in the third month of foetal life, when—in the case of the lacrimal gland—the embryonic cells come into relation with the primitive cartilage of the frontal bone).

THOMAS SNOWBALL.


(10) Toulant adds another case of metastatic carcinoma of the iris to the few already recorded. In this case the affection of the iris was bilateral and followed removal of the breast for carcinoma in a woman of 31. In addition to the lesions of the iris there was a general recurrence in the skin of the thorax. The nodules in the iris made their first appearance as small yellowish swellings and slowly coalesced without much inflammatory reaction. As the patient left Paris after a stay of three months the author was unable to follow up the final result.

The only other case recorded is said to be one of Proctor’s (Arch. of Ophthal., 1907) in which a pathological examination was made by Verhoeff. A bibliography accompanies the paper.

E. E. H.


(11) Casolino records a case of this rare affection in a patient of 55 years. Four months previously she had attended the Clinic with a tumour occupying the superior and internal part of the conjunctival fornix. The movements of the globe were much restricted, and there was a slight amount of exophthalmos. Wassermann reaction was positive, and the tumour disappeared after treatment with mercurial injections. Four months later the patient returned with a growth on the outer part of the same eye between the equator and the limbus. It was the size of a large bean, of a yellowish-red colour, with a rough surface containing a network of vessels. In
view of the previous history, a further mercurial treatment was tried, but without effect. The tumour was then removed. Two months later it recurred, and the patient declined further operation. Casolino gives a careful account of the microscopical anatomy of the specimen. Two plates accompany the paper.

E. E. H.

(12) Lamb. H. D. and Hardy, W. F.—A case of lipodermoid of the bulbar conjunctiva with accompanying congenital defects. 

(12) Lamb and Hardy describe a case of lipodermoid of the conjunctiva in a boy aged 10 years, associated with congenital defects of the eye itself, iris coloboma, and remains of pupillary membrane; of the skull, antero-lateral fontanelle due to an unclosed pterion; and of the genitalia, hypospadias, undescended left testicle, fat pads over the symphysis and abdomen, all of which recall the condition of hermaphroditism.

“The (left) eye was seen on its temporal side to present a large flat triangular growth. This extended from 3 mm. inward from the periphery of the cornea outwards to the outer angle of the eyelids and downward to the lower third of the lower fornix; backward hugging the globe and ever widening, the tumour extended to beyond the globe, where it could no longer be followed. The colour of the growth was reddish, the consistency rather soft; the overlying conjunctiva was quite adherent, and the mass but little movable over the underlying eyeball.” Vision in this eye was only equal to fingers at five feet. The eyeball movements were good. The growth was dissected off the cornea and sclera but as it became united with the orbital fat the dissection was not continued farther.

Microscopically, the tumour was a lipodermoid. The authors point out that the chief interest of the case lies in the fact that dermoid growths have been observed with much the greater frequency in females, and here, nominally, in a male, the congenital anomalies of the genitalia cause the case strongly to resemble an hermaphrodite.

ERNST THOMSON.

(13) Argánaraz and Belgeri.—A case of leuco-sarcoma of the iris. 
(Un caso de leuco-sarcoma del iris.) Boletin de la Sociedad de Oftalmologia de Buenos Aires, Vol. IV, 1917.

(13) The authors record an example of the rare condition leuco-sarcoma of the iris, which was under observation clinically for a considerable time by various surgeons in the Argentine, as the patient refused operative interference for some years. The tumour occurred in a woman, aged 28, who gave the following history: when aged 17 she received a severe injury to the right side of the forehead and right eyebrow. Six months later she noticed floaters before the eye and
gradual diminution of sight. She consulted an oculist who advised excision of the globe, which advice was supported shortly afterwards by Lagleyze. Six years later glaucoma supervened and she was seen again, but still refused operation. She fell into Belgeri’s hands in 1915, and at last consented to have the eye excised.

The histological features were as follows: the tumour formed a round lump stretching backwards from the cornea, about 1 centimetre in diameter in all directions. The sarcoma cells had invaded the substance of the cornea, had destroyed practically the whole of the iris and the anterior portion of the ciliary body. The posterior part of the ciliary body was atrophied, as was also the choroid. The retina was detached and infiltrated with inflammatory cells. The tumour itself was composed of oval and fusiform cells with large nuclei and sparse protoplasm. The cells contained no pigment. The tumour was abundantly supplied with vessels and was of the perithelial angio-sarcomatous type.

The remainder of the paper consists of a summary of previously reported examples of this rare condition. A good illustration of the macroscopic features of the tumour in situ is appended.

R. R. James.


(14) The left eye of a child, aged 3½ years, was removed for glioma. Examination of the enucleated eyeball showed that there was a large scleral staphyloma in front, and that the thinned sclera as well as the proximal part of the cut optic nerve was infiltrated with glioma cells. In a few months the orbital contents were exenterated, on account of a recurrence of the growth in the orbital cellular tissue. Recurrence took place, however, in a few weeks, and this was treated by inserting a large dose of radium into the growth, and leaving it in place for four hours and a half. Free sloughing followed the application, but at the end of about six weeks all semblance of growth had disappeared.

Three months later the child was readmitted with a soft fluctuating swelling in the orbit, from which a considerable quantity of pus and pultaceous material was evacuated by incision. About a fortnight later an attempt was made to clear out the cavity with a view to using radium again. Very free haemorrhage attended the operation, and it was found that the orbital bones were eroded, and that the antrum was filled with a grumous growth. The operation was followed by recurrent haemorrhage lasting for two or three days. From this time onward the gliomatous mass grew with extraordinary rapidity. It spread over the parotid region, down into the neck, forwards through the skin, and backwards into the mouth.
The child's general health, nevertheless, remained excellent until about three weeks before death, when rapid emaciation set in. Death took place about three months after admission into hospital with the second recurrence. The growth, after death, had a circumference of 16\frac{1}{2} inches, and a vertical diameter of 12\frac{3}{4} inches. It weighed 43 ounces. Post-mortem examination showed that the tumour had penetrated through the sphenoidal fissure, and that the under surface of the temporal lobe was flattened by a large subdural mass, which had pushed back the anterior portion of the temporo-sphenoidal lobe. The olfactory lobe on the same side was flattened. The growth had extensively invaded the anterior fossa of the skull on both sides. Neither optic nerve was affected.

The outstanding features of the case are stated as follows. (1) The failure of radium treatment. (2) The purely local nature of the recurrence, which was practically a continuation of the original growth outside the globe. (3) The extremely rapid growth of the tumour when once it had been opened up, and after attempts had been made to clear it away. (4) The total absence of true metastases and the complete freedom from involvement of structures such as the cerebrum, which, though covered by the meninges, were otherwise in immediate contact with the growth. (5) The excellent general condition of the patient, whose health was not materially affected until the protrusion of the growth into the mouth set up acute septic absorption from which the child died.

S. S.


(15) The case related by Clapp illustrates the difficulty of diagnosis which may occur in some tumour cases. There was a cystic detachment of the retina and normal tension with no dullness on transillumination. This last feature was so marked that when the case was shown at a society meeting one of the members present remarked on the value of transillumination without which the eye might have been sacrificed. That it ought to have been sacrificed appears in the sequel, for the patient eventually presented glaucoma symptoms and the eye was removed. The patient died a little more than a year after his first appearance at consultation and metastases were found in the liver. The ocular growth proved to be a melanotic sarcoma. The author's explanation of the failure of transillumination is doubtless the correct one, namely, that the light did not get far enough back to catch the tumour, but did catch the detachment which lay in front of the growth.

Ernest Thomson.

Wright describes and fully illustrates an exceptionally rare form of intra-ocular tumour. The eye was removed for chronic glaucoma following several subacute attacks during the preceding eighteen months. Six months later a tumour mass was removed from the orbit. It apparently had no attachments to the orbital walls, but it was attached by a pedicle to the apex of the orbit. This growth presented the same cellular structure as the growth discovered in the eye when it was cut, and was evidently a recurrence. There was no history pointing to the presence of a primary growth elsewhere in the body. The intra-ocular growth involved the choroid, the anterior 7 mm. of which was normal, whilst posteriorly it gradually became thicker and over the papilla it measured 4 mm. This thickening was caused by an infiltration and new growth of cells of a peculiar type and arrangement. The cells consisted of columnar epithelium distinctly tubular in arrangement with many cyst formations, and in these cysts were numerous papillomatous projections of connective tissue covered by columnar epithelium. It was regarded as a papillary cyst adenoma usually classified under the head of non-malignant tumours and generally found in the ovaries, breast, and uterus.

J. Jameson Evans.


In the case by Jackson and Finnoff the sight was affected for over fourteen years, and the eye was not removed until two and one-half years after glaucomatous symptoms had made their appearance. The medical men previously consulted had recognized a detachment of the retina, but there was a history of indirect injury. Eighteen months before the eye was enucleated a band-like opacity of the cornea was observed. The pathological diagnosis was spindle-cell melano-sarcoma of the choroid with metastasis through the globe into the conjunctiva and orbital tissue. Mild panophthalmitis was also present, with a peripheral annular infiltrate of the cornea. The lens was cataractous, and there were evidences of secondary glaucoma following a choroidal sarcoma.

S. S.


The growth of one lower eyelid in a young child, described as “epithelioma” by Girgis, and associated with “small warty papilloma of the face and nose,” appears to have been one of the
manifestations of the rare affection xeroderma pigmentosum (Kaposi's disease), a view taken by Lt.-Col. Phillips, R.A.M.C., who discussed the case. Be that as it may, the growth, which covered both lids of the right eye and extended over the upper part of the cheek, is described as hard, fungating, and ulcerated, with cauliflower excrescences. Measurements were: length, 4 cm.; breadth, 3 cm.; and thickness, 2 cm. The tumour, together with the lower eyelid, was removed, and with it some of the ocular conjunctiva and the skin of the cheek and the subcutaneous tissue and fat down to the malar bone. A Thiersch's flap from the thigh was used and the parts were sutured. The child was alive sixteen months after operation.

S. S.


(19) Fuchs here discusses certain special conditions and varieties of shape found among the numerous cases of sarcoma of the uveal tract which he submitted to anatomical examination, but commences his article with the consideration of the normal pigmentation of the choroid and of melanoma for the sake of comparison with some cases of sarcoma in its initial stage.

The pigmentation in the pigment epithelium and stroma of the choroid was estimated separately according to a colour-scale and Fuchs found that as regards the pigment epithelium the tint of it, as a whole, varies within wide limits, while that of the pigment particles does not: the tint of the retinal epithelium depends mainly on the number of the fuscin needles in the individual cell, The colour of the choroid, as a whole, also varies more than that of the individual pigment granules. It depends on the number of the chromatophores, but more especially on the amount of pigment in these cells. The amount of pigment influences the size and shape of the chromatophores (not so with the retinal epithelium): both in physiological and pathological conditions (melanoma) the cells tend to assume a more globular shape according to the increase in the pigment.

The ectodermal and the mesodermal pigmentation are quite independent of each other. 

*Melanoma of the choroid* (Fuchs disapproves of the synonym, *Naevus*) is a circumscribed mass of chromatophores. Such tumours are very rare and are met only accidentally on anatomical examination; they are found in choroids that are well, or deeply, pigmented and occupy the posterior part of the fundus. They are small growths (the largest in six recorded cases being only
2 mm. in diameter), the area of which is greater on their outer side than on their inner; the choriocapillaris is usually not involved. The cells composing them are increased in number, but more in size; their outline is either still distinguishable or obscured by the pigment.

Melanoma is diagnosed as such when all the cells in it resemble chromatophores. Fuchs finds no evidence to indicate that a melanoma may develop into melanosarcoma, and holds that the supposed analogy of origin of melanosarcoma from naevi in the iris proves nothing, for in the iris naevi are of common occurrence while sarcoma is rare.

He refers, in passing, to three cases of melanoma in the ciliary body.

In connection with sarcoma of the choroid the author discusses very small sarcomata, pigment spots in the fundus in such cases, types of growth, and intra-ocular pressure.

He gives a list of fifteen cases of very small sarcomata, where the choroid at the site of the tumour did not exceed 1 mm. in thickness. These new growths were usually found in the posterior section of the choroid, in the suprachoroidea and layer of large and medium vessels. As regards the three cell types (chromatophores, endothelial and vascular cells) found in these layers the pigmentation of the majority of these, even the smallest sarcomata, pointed to the chromatophores as their usual starting point. There is as yet no certain means of absolutely excluding the other two types of cells.

The author pronounces his cases as true sarcoma from their histological appearances only, the sarcoma spindle cells with large nucleus and nucleoli being quite different from chromatophores and in the smallest growths exactly similar to those in the fully developed tumour. The fact that the majority of these tiny sarcomata are spindle celled and pigmented contradicts the theory that the early form of sarcoma cells is round and non-pigmented; it indicates rather that these tumours are histologically of the same structure at their commencement as they show in their later stages.

Pigment spots are often seen in the area of the retina overlying the sarcoma, or in its neighbourhood, or at some distance from it. They arise most frequently from the clumping of phagocytes containing the pigment of disintegrated retinal epithelium, which lie on the pigment epithelium, on the outer side of the retina or in this layer. Less frequently they are due to the migration of pigment epithelium cells into the retina, rarely to the tumour cells or to phagocytes carrying haematogenous pigment.

The variation in the form of growth of sarcomata is shown by a number of illustrations and cases, in which the author treats of the relations of the tumour to the rupture of the lamina vitrea (on which its shape primarily depends) and to the retina both before
and after its detachment. In the case of the retina he discusses those cases where this layer becomes split, usually at the inter-nuclear layer, at the point where only the apex of the tumour breaks through, the retina being elsewhere detached, and offers an explanation of this condition.

As regards the forms of growth that are observed where the rupture of the lamina vitrea occurs very late, Fuchs deals at length with the circumpapillary and flat sarcoma types, and in the case of the latter with the causes underlying their special development.

With regard to intra-ocular tension, he refers to the changes in the preglaucomatous stage—detachment of the retina or choroid and swelling of the papilla—and gives a survey of the conditions found in a series of nineteen cases of well-developed sarcoma without any rise of tension and in six cases with hypotony. In the great majority of the former series there was a detachment of the retina. As to the origin of the subretinal fluid he discusses the pros and cons of the two theories advanced—from the choroid or from the tumour. He holds that this question is not yet solved, although he personally inclines to the former.

THOS. SNOWBALL.


Bane reports a case of cyst of the dural sheath in a lad of 8 years. The eye was blind, and protruded 5 mm. forward, downward, and inward beyond the plane of the other eye. Optic disc atrophic. There was 6D. of hypermetropia in the affected eye as compared with half that amount present three years previously. X-ray examination negative. A vertical incision, about 30 mm. in length, was made through the conjunctiva 5 mm. external to the cornea and the external rectus was divided. Dissection backwards close to the globe soon brought to light a cystic mass (12 by 18 mm.) firmly attached to the sclera around the entrance of the optic nerve and enveloping the nerve for about 18 mm. towards the optic foramen. The cyst was accidently ruptured. The optic nerve was exposed and severed close to the globe, and a section of the nerve together with the cyst wall was removed.

On leaving off the pad, which had been used to shield the eye, a small peripheral ulcer of the cornea, which healed in six days, developed. It was noted that the severing of the nerve did not appear to interfere with the blood supply of the retina.

S. S.

(21) Posey reports three instances in which an orbital tumour of some size (sarcoma, fibroma, dermoid cyst) was removed by an incision made along the outer rim of the orbit. In a fourth case (adenoma) the incision was made directly over the mass which could be felt, while in the others the position of the tumours was uncertain, although the clinical signs suggested that the growth was located in the posterior part of the orbit.

The initial incision was so placed that, if found desirable, the wall of the orbit might be resected after the manner of Krönlein; but fortunately in none of the cases was this found to be necessary. The author devotes a large part of his communication to describing the modification of the Krönlein method by Magitot and Landrieu, of Paris, although he has not performed the modified operation upon the living subject.

S. S.


(22) Davis's first case was one of endothelioma treated by removal and by a later resection of 1 1/2 inches of the frontal bone. The second case was one of myxoglioma of the optic nerve (intradural) which followed the removal seven years previously of an intradural sarcoma of the optic nerve by Krönlein's operation.

S. S.


(23) Friedenwald's first case was in a patient of 18 years, whose fundus showed a bluish-grey mass, the summit of which could be seen with a convex glass of 12D. The tuberculin test was negative. After a trial of radium the eye was removed. Examination of the growth by several pathologists failed to settle the question of its essential nature, so that the author concludes that it must be described as a choroidal granuloma of obscure origin. The second case was in a lad of 12 years, the sight of whose right eye had been lost. The general health was good. The Wassermann and the von Pirquet tests yielded negative results. After enucleation of the eye the growth was found to measure 0.9 cm. by 0.6 cm., and to be in the nature of those cases described by Coats as "retinitis with massive exudation." The cases described by Friedenwald go to show the difficulty or even the impossibility of making a definite diagnosis in some instances of a neoplasm of the fundus solely on the ophthalmoscopic appearances.

S. S.