out of the 27 cases referred to, 19 were males and only 7 females, while the sex of 1 case is not recorded.

Relationship to Leukaemia.

Recklinghausen was the first to point out the very close resemblance between chloroma and leukaemia. He called attention to the lymphomatous structure of the new growth, to the condition of the blood in the cases in which it was examined, and to the organs affected, either primarily or secondarily, by chloroma, which are identical with those found in cases of leukaemia. Dock, in his article on the subject, points out a further resemblance in the similarity of some of the symptoms of the two conditions. Thus, deafness is common to both. In chloroma it is due to the pressure of tumours in the internal, middle, and external ear. In leukaemia, though sometimes ascribed to haemorrhage, in many cases it is caused by the pressure of leukaemic tissue in the ear. Exophthalmos is one of the most usual symptoms in chloroma, and a similar condition has been described in several cases of leukaemia. In both conditions anaemia of a marked and progressive nature is present, accompanied by petechiae, extravasations under the skin, epistaxis, and haemorrhages into the conjunctivae and retinae. The blood in every case of chloroma examined has been characterized by a very striking lymphocytosis and by a remarkable diminution in the red blood corpuscles. Dock is of opinion that in the rapidity of its course chloroma stands between ordinary cases of leukaemia and those described by Ebstein as acute leukaemia, a view which still requires confirmation. He considers that there is as strong evidence in favour of the new growths found in chloroma being the source of the lymphocytes as there is of the thymus, bone marrow, and spleen being their source in leukaemia.

Diagnosis

So far as I have been able to gather, the case which I have recorded is the first in which a diagnosis of the condition was made during life. Before the appearance of the tumours a diagnosis would be impossible, as we have then only the symptoms pointing to leukaemia to guide us in forming an opinion—namely, the anaemia, loss of strength, rapid pulse, haemorrhage into the skin and mucous membranes. When subsequently to those symptoms, exophthalmos, failing sight, deafness, tumours in the temporal regions, and other parts of the body supervene, the diagnosis of chloroma should always suggest itself.

Prognosis.

The termination is invariably fatal from exhaustion, the average duration of the case being five or six months, although cases have been recorded by Balfour and Durand-Fardel lasting two years and longer.

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TUBERCULOSIS OF THE CONJUNCTIVA.

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THE following account of two cases of tuberculosis of the conjunctiva that have recently been under my care at the North-Eastern Hospital for Children may not be devoid of practical interest. The facts are shortly as follows:

CASE I.—E. H.,¹ aged 17 months, was seen on October 23rd, 1901.

History.—According to the mother's statement, the baby was weaned at 13 months, and about two months later she "went off her food and began to lose flesh." "A sort of lump" was noticed at about that time in the right lower lid,

and the mother found there was an ulceration inside corresponding to the external swelling. The patient was the younger of two children. There was a miscarriage between the two births. The father is living, and his relatives were said to be free from phthisis. The mother (chest not examined) had a cough and night sweats. The child's maternal grandmother was stated to have died from phthisis.

Present Condition.—A thin, pallid, bad-tempered child, weighing 15½ lb. nude. The inguinal and cervical glands were slightly prominent; the spleen was palpable. Several small circular ulcers were present upon the buttocks—three on the right and one on the left side. The central depressed ulceration, which measured 2 mm. to 3 mm. across, was surrounded by a red areola. The masses appeared to be deposits of tubercle in the subcutaneous tissue. There were moist, broncho-pneumonic sounds over the back of the chest. In the right eye, towards the centre of the free edge of the lower lid, was a shallow notch, covered with a greyish deposit. On evertting the eyelid (Fig. 1) a semicircular ulceration, coated

Fig. 1.

with greyish-yellow material, was seen to be continuous with the notch. The base of the conjunctival ulcer, which measured 7 mm. by 5 mm., was somewhat waxy-looking and nodular. Several tiny, pale, translucent elevations, which at once suggested the idea of miliary tubercles to my mind, lay in the conjunctiva near the ulcer. The cornea was clear. There was no lachrymal or nasal tuberculosis. The right preauricular gland was somewhat swollen.

Diagnosis.—A diagnosis of tubercle of the conjunctiva was made, and the child admitted into hospital. Scrapings from the conjunctival ulcer, after staining by the Ziehl-Neelsen and Ziehl-Gabbet methods, were found to include a limited number of scattered tubercle bacilli. As a rule, the organisms occurred singly, and, on account of their limited number, had to be searched for carefully.

After-History.—When the child was seen on November 13th she was found to have double optic papillitis, some stiffness of her neck, and a typical tubercle in the choroid of the right eye. The tubercle lay not far from the optic disc, to the upper and outer side. It was not well defined, had a fawn colour, was more or less circular, and was about half the size of the optic disc. Its edges, as it were, were moth-eaten. It was crossed by a retinal artery. The child's temperature was febrile, and had risen on more than one occasion to 103° F. It slowly sank into a semicomatose state, and the respirations became of the Cheyne-Stokes type. The temperature rose to 105.5° F., and she died quietly on November 17th—that is, twenty-five days after admission to the hospital, and about three months after the beginning of the illness. To my great regret, permission for a necropsy could not be obtained. For some of the notes of the case I have to thank Mr. J. P. Cullen, late house-surgeon to the hospital.

CASE II.—V. N., aged 15 months, came to my out-patients' on November 27th, 1901.

History.—It was stated that the child's left eye had been red and discharging for about four months, and the mother had lately noticed that the free edge of the lower lid was becoming notched. The mother had lost a brother, aged 18 years, and a sister, aged 6 months, from "consumption." A maternal aunt and uncle had also died from that disease. The child had suffered from a cough for two months, but no physical signs were found except a few rhonchi over the back of the chest. No enlargement of the spleen could be made out. The temperature was 98.6° F.; the weight (nude) 13½ lb.

Condition on Admission: Left Eye.—The lower lid was red and thickened on its outer half and its free edge eroded; this erosion was continuous, with a shallow, semicircular ulceration (10 mm. by 5 mm.) of the palpebral conjunctiva (see Fig. 2). The ulcer had a nodular, lardaceous base, with

Fig. 2.

a few small reddish granulations forming its posterior boundary. A similar bunch of insignificant granulations were present on the free edge of the eyelid, at the junction of its outer and inner half. The child was admitted to hospital. Scattered tubercle bacilli were demonstrated in scrapings from the conjunctival ulceration.

After-History.—December 18th, 1901: During the last three days, the first phalanx of the little finger of the right hand has been thickened and painful, probably from a tuberculous dactylitis. Under chloroform, the conjunctival ulcer was excised with a Graefe's cataract knife, and its edges were thoroughly scraped with a small, sharp spoon. The resulting wound was filled with a graft taken from the skin of the left upper arm, carefully freed from fat, and kept in position by several sutures of fine China twist. January 8th, 1902: The skin graft has healed in position, and there is now no sign of any conjunctival ulceration. As the graft is not yet vascularized, it has a whitish look. January 15th, 1902: The graft is now becoming red at its edges. February 4th, 1902: Eyes examined under chloroform but no ulceration of the conjunctiva found. It may be added that the excised conjunctiva, when examined with the microscope, showed several miliary tubercles with typical giant cells. Unfortunately the sections (celloidin) were too thick to detect tubercle bacilli.

REMARKS.

Tubercle of the conjunctiva is commonly thought to be one of the rarer affections of the eye, a view borne out by most of the published statistics. I am inclined, however, to agree with the view put forward by Dr. J. W. H. Eyre,² who thinks that the rarity of the malady has been somewhat over-estimated. He reaches this conclusion from the fact that amongst 31,000 ophthalmic patients he found tubercle in 11, or a ratio of about 1 in 2,700. Personally, amongst some 3,000 patients seen at the Children's Hospital, I have recognized the 2 cases detailed above—that is, a ratio of 1 in 1,500. An extraordinary variety of type is presented by the clinical

appearances of conjunctival tuberculosis. Thus, Sattler described no fewer than four forms, namely: (1) Miliary ulcers, (2) miliary tubercles, (3) velvety granulations, and (4) "cockscomb" granulations. To these Dr. Eyre added a fifth group (5), characterized by the existence of a pedunculated tumour of the tarsal conjunctiva, closely resembling in appearance a papilloma or fibroma. My two cases furnish an instructive contrast with one another, inasmuch as the conjunctival ulcer in the first was clearly a symptom of general tuberculosis with pulmonary, meningeal, and choroidal manifestations, whereas the second case appears to be an example of primary infection. To judge from recorded cases, conjunctival tuberculosis generally belongs to the latter class. One case at least is known where the condition followed an operation for squint performed with instruments presumably contaminated with tuberculous material.

NOTE AND REFERENCE.

¹ The patient was exhibited at a meeting of the Society for the Study of Disease in Children on November 15th, 1901. ² *Archives of Ophthalmology*, vol. xxix, 1900, No. 1, p. 12.

ON THE SUBCUTANEOUS INJECTION OF PARAFFIN FOR THE REMOVAL OF DEFORMITIES OF THE NOSE.

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THE two following cases were shown by me at a recent meeting of the Medico-Chirurgical Society of Glasgow. They are cases in which there was a disfiguring deformity of the nose, the result in each case of syphilitic intranasal ulceration, with destruction of portions of both the bony and cartilaginous framework.

The first case is a woman, aged 26. She first came under my observation at the Western Infirmary in October, 1900, when she had extensive intranasal ulceration and necrosis of the septal cartilage. There was also widespread ulceration of the alveolus of the upper jaw, with necrosis of the underlying bone. Antisyphilitic treatment was prescribed, with local measures to cleanse the surface and stimulate healing, and this line of treatment was continued under the supervision of her own medical adviser in private. Two months later the necrosed alveolar process was discharged, and with the removal of this support the upper lip fell in.

She remained in good health till the end of 1901. Early in January, 1902, she observed that the shape of her nose was becoming altered, and very soon it assumed the shape shown in Fig. 1. At the same time gummata formed elsewhere—one under the inner canthus of the right eye, one at the angle of the right lower jaw, and one under the chin—and these rapidly broke down.

On February 14th the sore under the right eye was excised and the edges stitched—this healed by first intention—and the others were scraped and dressed. On February 26th, paraffin was injected into the subcutaneous tissue of the nose, with the object of restoring its shape. The paraffin used was "sterilized paraffin," with a melting point of 104° F., and the nose was prepared as for any other surgical operation. The paraffin in a molten condition was injected by means of a serum syringe, the nose being kept warm by hot dry sponge cloths, and the needle kept hot by an electric current. The needle was inserted at two places, one on either side of the nose immediately above the alae, while pressure was applied around the nose and at the inner canthus of the eyes to confine the fluid to the nasal region. The quantity injected in this case was a little over 2 drachms, and while solidifying was quickly moulded into the shape desired. Immediately after the injection of the paraffin the skin covering the material so introduced was intensely white and glazed, but no pain was complained of. The nose was covered with a layer of cotton wool.

On the following day the area which was blanched after the injection was bright red, and the skin remained glazed, but still there was neither pain nor discomfort, nor any rise in temperature. The redness slowly subsided, and the glazing disappeared. As a result of the injection, the deep depression immediately below the nasal bones has been filled