

LEPROSY OF THE EYE AND ITS APPENDAGES*

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INTRODUCTION

That leprosy not uncommonly affects the eye and its appendages is not widely known among the medical practitioners. The result is that a wrong diagnosis is sometimes made and treatment prescribed may not be suited to the condition. An erythematous thick lesion of leprosy involving the eyelid and cheek with acute onset may be treated for erysipelas. Cases of leprosy iritis may be attributed to syphilis and are treated with potassium iodide. Such a treatment is definitely harmful to the patient. Therefore a discourse on this subject may be very helpful. In the text books of medicine, leprosy is classified as "anaesthetic" and "nodular." This classification has been changed into "neural" and "lepomatous" in the International Leprosy Conference held at Cairo in March, 1938.

MANIFESTATION OF THE DISEASE

(1) *Lesions on the Eyelids.*—In both neural and lepomatous cases the eyelid may be involved.

In neural cases a patch may appear on the eyelid or the eyelid may be affected by the extension of some lesion on the cheek, nose or forehead. The character of the lesion varies. It may be slightly hypopigmented and anaesthetic (Fig. 1), or erythematous, thick and anaesthetic. The erythematous lesion may be chronic in nature (Fig. 2) or it may appear suddenly and spread rapidly. There may be fever and oedema of the affected parts. Such a case is likely to be mistaken for erysipelas (Fig. 3).

Erythematous thick lesions occasionally ulcerate (Fig. 4). After the subsidence of these lesions there is usually scarring and there may be ectropion and flowing of lachrymal fluid down the cheeks. In some cases the eyelashes are destroyed. Fibrillary twitchings of the orbicularis oculi of the affected side is frequently seen.

In lepomatous cases the lesions usually take the form of diffuse infiltration in the eyelids (Fig. 5). Occasionally nodules may be seen (Fig. 6). There may be ectropion of the eyelid due to resolution and contraction of the adjacent lepomatous lesions of the face (Fig. 9). The lachrymal duct may be blocked and there may be infection and formation of an abscess.

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FIG. 1. Hypopigmented lesion. Left upper eyelid and cheek.



FIG. 2. Chronic erythematous lesion.



FIG. 3. Acute erythematous lesion (left eye).

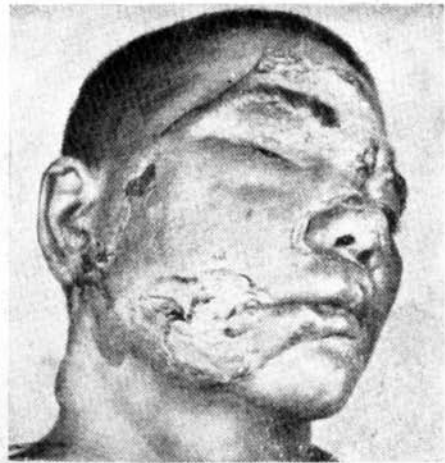


FIG. 4. Acute erythematous lesion, ulcerated in places. Eyelashes destroyed.



FIG. 5. Lepromatous infiltration of the eyelids.



FIG. 6. Nodules on the eyelids.



FIG. 7. Paralysis of orbicularis oculi (left eye)



FIG. 8. Sclero-corneal nodule.

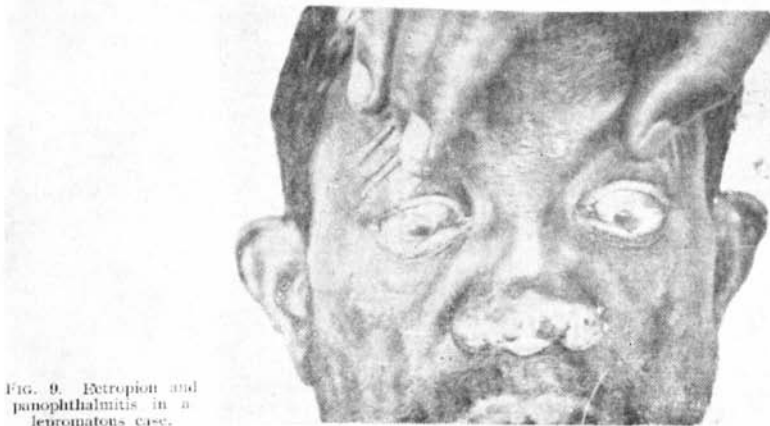


FIG. 9. Retropion and panophthalmitis in a lepromatous case.

(2) *Paralysis of the orbicularis oculi.*—In association with leprosy lesions on the eyelids or as the result of lesions on the face and involvement of facial nerve, there is sometimes paralysis of orbicularis oculi (Fig. 7). The result is that when the patient tries to close his eyes the affected eyelids cannot be closed. There is also epiphora. This condition may lead to corneal ulceration and other eye complications.

(3) *Conjunctiva.*—In neural cases anaesthesia may be found in the conjunctiva. The palpebral conjunctiva is often found infiltrated when there is a thick erythematous lesion on the eyelid. In lepromatous cases small nodulations sometimes form on the conjunctiva, such a nodule may be like a pterygium. There may be conjunctivitis caused by lepromatous infiltration.

(4) *Sclera.*—In lepromatous cases there may be episcleritis. Small nodules on the sclera or at the sclero-corneal junction are sometimes seen. (Fig. 8.)

(5) *Cornea.*—In neural cases there may be anaesthesia of the cornea and loss of corneal reflex. This together with ectropion, paralysis of eyelids, and drying of the cornea causes corneal ulceration which may heal leaving opacity, or may lead to extensive infection of the eye (Fig. 9). In some cases it leads to iritis and iridocyclitis. Sometimes in neural cases but more commonly in lepromatous cases a keratitis is seen and the cornea may have a ground-glass-like appearance. Nodulation on the cornea is sometimes seen.

(6) *Iris and ciliary body.*—Involvement of the iris and ciliary body is a common occurrence in lepromatous cases. Leprosy iritis may be acute or chronic, diffuse or localised. When acute it is usually associated with lepra reaction. When it is localised, small isolated nodules are seen. The common symptoms are acute pain and tenderness in the eyeball, photophobia and later there is dimness of vision. There is lachrymation and blepharospasm. The pupil is contracted and sluggish in action. There is redness and congestion in the affected eye, as a result of ciliary injection and also conjunctival congestion in some cases. Usually one eye is more affected, but both the eyes may be equally affected. Sometimes there is an exudate on the posterior surface of cornea (hypopyon). Ocular tension increases in some cases.

In a chronic case the pupil becomes more or less fixed and may be irregular as the result of adhesions and there is diminished reaction to light and accommodation. As the result of organisation of the exudates there may be retraction of the iris and the shape of

the pupil may be altered. In some cases there is atrophy of the iris and atrophy of the eyeball.

(7) *Choroid, Retina, Optic-disc.*—Choroiditis, retinitis, and peripapillitis caused by leprosy have been reported by some workers.

TREATMENT

(i) *Hypopigmented lesions.*—Hypopigmented anaesthetic lesions on the eyelid should be injected with *Hydnocarpus wightiana* oil or ethyl ester of *Hydnocarpus wightiana* oil once in three weeks by the intradermal method.

(ii) *Chronic erythematous thick lesion.*—The same routine treatment holds good here also. Besides local injections the lesions may be painted with trichlor-acetic acid solution (1 in 5) every month, great care being taken to protect the eye. After the application of the acid, the part should be smeared with olive oil or coconut oil frequently for two or three days.

(iii) *Acute erythematous thick lesion.*—This is usually associated with lepra reaction. In such a case injections of *hydnocarpus* oil or its preparations should be stopped and the patient should be treated for lepra reaction which is described under the treatment of iritis.

(iv) *Paralysis of orbicularis oculi.*—Intradermal injections of *hydnocarpus* oil around the eye and subcutaneous injections near the facial nerve below the ear sometimes help to diminish paralysis. Stimulation of the orbicularis oculi and of the facial muscles by galvanofaradic current is another useful method of treatment. For ectropion, tarsoraphy has been tried by some workers and has been found useful. The eye should be protected from dust and other foreign particles, and to prevent drying liquid paraffin should be dropped in the eye frequently and at night the eye should be kept bandaged.

(v) *Conjunctivitis, episcleritis and Keratitis.*—Routine treatment for these conditions should be given. In this matter an ophthalmic surgeon is more competent than a leprologist but unfortunately there are some ophthalmologists who hesitate to undertake treatment of cases of leprosy. If there is only conjunctivitis, irrigation of the eye several times a day with normal saline solution or boric lotion, and instillation of *mercurochrome* (1%) or *protargol* (½%) are all that is necessary. For keratitis and episcleritis *atropine sulfate* (1%) should be dropped in the eye and boric compress should be applied. Later *dionin* and yellow oxide of mer-

cury ointment (½%) are found useful. If the condition is acute, active treatment of the general disease with hydnocarpus preparations should be stopped.

(vi) *Corneal ulcer*.—If there be much discharge the affected eye should be washed frequently with antiseptic lotions such as solutions of boric acid, sodium chloride, etc. The eye should not be bandaged.

Hot compress and instillation of atropine sulphate solution (1%) are found useful and cauterization of the corneal ulcer is often needed. Smoked glasses may be used if there be photophobia.

Corneal or sclero-corneal nodules should never be cauterised. It often leads to iritis and irido-cyclitis.

(vii) *Iritis and irido-cyclitis*.—When the iritis is caused by lepra reaction the patient should take rest in bed in a darkened room. He should be on light nutritious diet and aperients may be given if necessary. Injections of hydnocarpus oil or its preparations should be stopped. Hot compress should be given to the eye three or four times a day. Instillation of atropine sulphate solution (1%) or of homatropine (2%) two or three times a day is very useful. This should dilate the pupil and then the medicine should be stopped. If there is no dilation after the instillation of these medicines ½ cc. of atropine sulphate solution (gr. 1/100 in 2 cc. distilled water) may be injected subconjunctivally. Dionin is very helpful in those cases where atropine fails to diminish the congestion of the iris.

In order to control lepra reaction the patient may be given intravenous injections of 1 to 2 cc. of potassium antimony tartrate solution (2%) or 5 cc. of 10% calcium gluconate solution twice a week. Alkaline mixture may be given three times a day. If there is photophobia an eye-shade or smoked glasses should be used by the patient.

In a chronic or subacute case the subconjunctival injections of trypan blue solution (1 in 1000) have been found useful. If necessary it can be repeated when the blue colour disappears. In addition the patient may have routine treatment for leprosy in small doses. Aolan and solganal B have been recommended by some workers. Aolan is sometimes definitely harmful. In any case of iritis, potassium iodide or iodine should not be given in any form.

(viii) *Choroiditis, retinitis and peripapillitis*.—These are usually associated with lepra reaction and the treatment should be directed accordingly.

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