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OCULAR LEPROSY

BY

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ONE of the greatest tragedies in the life of the unfortunates who contract leprosy is the affection of sight which occurs in some form or other in nearly all cases if they live long enough. As is well known the anaesthetic cases suffer from desiccation of their exposed corneae, and get ulcers and opacities. Efficient protection goes some way to prevent this, but in the tuberculous cases the eyes themselves are attacked by the disease and blindness follows.

Though there may be often found pericorneal deposits leading to opacity of the cornea, the great cause of loss of sight is irido-cyclitis, and I do not think that any cases show signs of ocular affection in any way until this has made its appearance. The condition begins very insidiously and is well developed before acute attacks are felt, and progress is invariable, going on to occlusion of the pupil, opacity of the cornea, lens and vitreous, with shrinking of the eyeball. It is now many years since I discovered that the statement that lepromata did not occur in the iris was incorrect. They are merely very small, but can be seen as yellow points lying on the iris in every case of irido-cyclitis. They are indeed pathognomonic, no other eye condition resembling them in the least. Any efficient loupe will show them. I also learned long ago that the iris texture is rotten so that iridectomy fails. The forceps removes only so much as is between the teeth, and the pigment layer remains on

the lens. Atrophy is always a component of the disease, and however much the iris is adherent glaucoma never results.

The slit-lamp and binocular microscope have thrown a flood of light on the condition, and though I have been able to see only such cases as were sufficiently presentable to permit of their leaving Robben Island I have learned many new facts.

I have had under observation and treatment a young Jew, aet. about 21, who acquired leprosy in an unknown way when about 11. His right eye was excised some six months ago and sent to the laboratory of the Royal London Ophthalmic Hospital. The left is the subject of the illustration. In this, as in other cases, the feature which strikes one first is the discrepancy between the naked eye, or low power magnification, and the appearances under a high power. Formerly one could see pupillary distortions and adhesions, atrophy of the iris as evidenced by fading, and loss of pattern ; but with the binocular microscope and slit-lamp one can see profound changes such as are imperfectly shown in the illustration, or more complete destruction of the tissue so that no stroma, sphincter or uveal tissue can be recognized in the neighbourhood of the pupil, there being merely an inflammatory membrane which ends in a shrunken opaque lens with hardly a visible boundary.

One may see in syphilitic cases nodules in or on the iris, not much different in size from those shown in the present case, but whereas these disappear with treatment and their former site can afterwards be detected only because a slight thinning in the iris stroma can be seen with the slit-lamp and neighbourhood illumination, in leprosy infiltration of the tissue and its destruction are nearly coextensive.

The iris and ciliary muscles are early affected in leprosy. The pupil is sluggish or inactive, and there is a premature presbyopia even where distant vision keeps good. The pupil may be distorted either by adhesions or as in the present case by cicatricial changes.

The drawing which I have made illustrates an early case of leprotic iritis. The pupil is immobile and the edge is drawn towards the periphery by contraction in the iris substance. The uveal edge is everted in this region. There is only one actual adhesion of the pupillary border visible, very different from what happens in ordinary iritis. On the surface of the iris may be seen rounded nodules raised above the surface so as to cast definite shadows. They are pink with a dense white centre. Smaller than these, and not visible with a loupe, are similar nodules going down in size to particles hardly visible separately. On the inner side and above there is a fold ending as a depression which is full of deposits, those on the surface being so massed as to resemble a growth of mould. Anywhere in the iris one can see darker depressed spots where one may presume leprotic nodules have been absorbed.

The stroma pattern of the iris is represented by white lines in a porous crumbly-looking tissue. There are no crypts. No blood vessels are visible, but in other cases, where atrophy is greater, the radial vessels of the iris may become exposed.

The aqueous is full of circulating cells showing that inflammatory changes are in progress, but there are no stellate or circular pigment deposits on the lens such as are seen in ordinary iritis after a single attack. The cornea shows in its upper part large numbers of white spots which begin as white peri-vascular lines at the limbus. The spots are composed of tiny discrete points coalescing into groups, and they may be seen at varying depths in the corneal tissue, but always as thin flat laminae among the corneal fibres. They diminish as one passes inward and end as tiny isolated points. Some may be close to Descemet's membrane, but it is difficult to be sure as reflections are deceptive.

True precipitates on the back of the cornea do not occur in leprosy. If they exist in a leper, it is in cases where the iritis is due to other septic causes, such as bad teeth, etc. In old cases there may be opacities on or in Descemet's membrane, but they have neither the appearance nor the distribution of keratitis punctata. The vitreous is clear and vision is good in this case.

Until the present case I have never seen ocular leprosy where iritis had occurred, and where there was an episcleral lepromatous thickening, which did not continue to get worse continuously, and at an appreciable rate. I obtained permission for this patient to come to the mainland once weekly, in order to try the effect of subconjunctival injections, and I began with bicyanide of mercury in saline. This did not seem to produce any effect. Casting about for something which might increase the vulnerability of the bacilli, I added to my solution some purified ox gall which mixes without precipitate, and found that almost from the start improvement began.

As I was not then in possession of a slit-lamp, I do not know what differences may have existed in the iris, but all the considerable leprous thickening round the cornea has disappeared, and the eye appears quite normal except for the distorted pupil. I speak of the appearance to naked eye of course. Such an improvement I have never formerly observed, and the patient is convinced of the value of the treatment. Latterly I have obtained pure sodium taurocholate and have used this in a one per cent. strength added to bicyanide one in two thousand five hundred, in two per cent. saline. The pain is slight and there is little reaction. That the improvement is not due merely to a general improvement is suggested by the fact that, whereas the patient was supposed to be a nearly arrested case, he has had during the treatment a severe general relapse affecting arms and legs, and the right eye was removed for pain.

I am aware that in a so slowly progressing disease as leprosy, a

year is not a sufficient time on which to build more than hopes, yet a cessation of the iritis, and a disappearance of the more superficial ocular disease makes one feel that the hopes have some good foundation.

HYDATID CYSTS OF THE ORBIT

BY

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HYDATID cysts of the orbit are not uncommon in South Africa, and from first to last I have seen a large number of them. It is a possibility to be remembered in all cases of proptosis, and, so far as I know, little is on record to help the operator who finds himself confronted with such a case. In the last three years I have had three cases which have been instructive by reason of the errors made, and it may save others from making similar errors if I relate them.

Hydatid cysts in the orbit fall into two classes according to their position, those which are within the muscle cone and those which are without. The difference is a very practical one, since if the cyst is within the muscle cone, or at the apex of the orbit, the eye will become blind, whereas if it is lateral to the eyeball it probably will not. Moreover, in the latter position operation is comparatively easy, while in the former case it is difficult. Diagnosis is very uncertain short of aspiration, but the negative Wassermann, the absence of inflammation, and of a palpable tumour in most cases, are suggestive if the patient lives in a land where hydatid disease occurs.

The first case came in October, 1920, a coloured girl, P. Japhtha, aged sixteen. There was proptosis of the left eye which had been increasing, with pain, during a month. Vision was six-ninths. No tumour could be felt, but the eye resisted backward pressure. There was no fundus change. I suspected a tumour. Her blood was taken for a Wassermann test, and she was told to return in a week. The test was negative, but the girl did not return till April, 1921. The eye was then pushed forwards almost to the point of dislocation. It had been quite blind for four months, but the cornea was clear enough to allow the fundus to be still seen, and it was apparently normal. Slight neuritis is not uncommon in orbital hydatids.

No tumour was palpable anywhere, despite the prominence. There was no disease elsewhere. Movements were present but restricted. Under an anaesthetic I explored the orbit, and deeply