

property and, hence, a high nerve bed temperature (7). The epidermis is also thicker on the palms and soles compared to other superficial skin areas and, hence, more warm (4). These are probably the reasons for infrequent involvement of the palms and soles in leprosy. However, in our patient the palms and soles were predominantly involved and the classical sites of lepromatous leprosy, including the back, chest, thighs, arms and abdomen, were relatively free. It is possible that the temperature dependency of *M. leprae* is not absolute, as evident by the fact that *M. leprae* survive in warm sites such as bone marrow (13), lymph nodes (6), and liver (5). This reasoning may partly explain the paradoxical distribution of lesions in our patient.

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## Posterior Chamber Intraocular Lens Implantation in Smear-Positive Leprosy Patients; a Preliminary Report

TO THE EDITOR:

Cataracts in leprosy patients can a) evolve as a consequence of uveitis, b) manifest as a result of steroid therapy, or c) occur as part of the aging process. Age-related cataract may soon become a leading cause of blindness among leprosy patients in endemic areas.

The best way to rehabilitate patients with age-related cataract is by extracting the cataract and implanting an intraocular lens. There are no reports available in the literature that describe this procedure having

been done on multibacillary leprosy patients whose skin smears were positive for acid-fast bacilli (AFB). We report here three posterior chamber intraocular lens implantations into the eyes of two lepromatous patients whose skin smears demonstrated AFB at the time of surgery.

#### CASE REPORT 1

A 35-year-old man with lepromatous leprosy, confirmed by histopathology, had completed 2 years of multidrug therapy (MDT). During this time and after the completion of his MDT, he had had several

episodes of both erythema nodosum leprosum (ENL) reactions and reversal reactions for which he had been treated with oral steroids. He presented at the ophthalmology department of the Schieffelin Leprosy Research and Training Centre, Karigiri, India, with complaints of deteriorating vision. His best corrected visual acuity in the right eye was 6/60 (20/200) and in the left eye 6/36 (20/120). Both eyes had posterior polar cataracts and the intraocular pressure by applanation tension was 12 mm Hg.

After 3 months the visual acuity was reduced to 2/60 (20/600) and 3/60 (20/400) in the right and left eyes, respectively. Since the cataracts could have been caused by the oral steroid therapy, no surgical intervention was contemplated for 5 months after stopping oral steroids. When the visual acuity in both eyes had fallen to 1/60 (20/1200) and the cataracts had become more cortical in nature, the patient opted to have cataract surgery. A skin smear done at this time showed an average bacterial index (BI) of 1.40+.

An endocapsular-extracapsular cataract extraction<sup>(2)</sup> was done on the left eye and a 21 diopter, 6.00-mm diameter, biconvex, three-piece, polymethylmethacrylate (PMMA), intraocular lens was implanted into the capsular bag. On the second postoperative day there was moderate amount of flare and cells in the anterior chamber with a small posterior synechia beginning to form at the 4 o'clock position. This was treated with betamethasone eye drops given hourly and a drop of tropicamide in the morning. By the fourth postoperative day there was no synechia and only a mild flare in the anterior chamber. On the 10th postoperative day vision was 6/6 (20/20) without any correction.

After 6 months the vision was the same and a similar surgery was done on his right eye. His skin smears at this time had an average BI of 0.40+. On the first postoperative day there was intense uveitis with severe flare and cells and a fibrinous layer coated the anterior surface of the intraocular lens. An injection of 1 ml of dexamethasone was given subconjunctivally and hourly betamethasone eye drops were started. By the fourth postoperative day the fibrinous layer had cleared up completely and there was only mild flare in the anterior chamber. His vision on the 15th postoperative day was

6/9 (20/30) without additional correction in the right eye. After 3 months his vision was 6/6 (20/20).

## CASE REPORT 2

A 57-year-old female, once diagnosed and treated as a borderline tuberculoid leprosy patient and then relapsing as a lepromatous patient, presented with decreased vision in both eyes. Her skin smear BI was 1.80+. On examination, there was a mature age-related cataract in the right eye and an immature cataract in the left eye. Visual acuity was hand movements in the right eye and 6/36 (20/120) in the left eye. MDT was started but since she was blind in the right eye and the vision in her left eye was continuing to deteriorate she opted to have cataract surgery on her right eye. After written consent was obtained an endocapsular-extracapsular extraction was done. Although there was some cortex adherent to the posterior capsule no attempt was made to clear this for fear of posterior capsular rupture. A 19 diopter, biconvex, single piece PMMA lens with a modified C-loop and an optic with a diameter of 5 mm was implanted.

On the first postoperative day the lens was *in situ* but there were flare and cells in the anterior chamber. The patient was started on betamethasone topical eye drops every waking hour. The second postoperative day also showed flare and cells in the anterior chamber and so oral steroids were given as a bolus dose of 40 mg and continued daily. On the fifth postoperative day there were no cells and only mild flare in the anterior chamber. Her vision on the sixth postoperative day was 6/36 (20/120), improving to 6/6 (20/20) with corrective glasses. One month later her vision had improved to 6/12 (20/40) without corrective glasses.

## DISCUSSION

Surgery on leprosy patients with positive skin smears is most often deterred by the assumption that the surgical trauma would excite and aggravate an inflammatory reaction that would be harmful to the patient. Psychological stress, which almost certainly accompanies patients preparing for surgery, has been thought to initiate and worsen lepra reactions<sup>(4)</sup>. Lepra reactions have been known to occur during and long

after completion of MDT<sup>(6)</sup>, and uveitis is a well-recognized form of its manifestation<sup>(1)</sup>. Although the number of patients with high bacillary counts are nowhere near what they were a couple of decades ago, there are occasions when a surgical procedure becomes necessary in such patients. The failing vision in both eyes of these two patients necessitated surgeries that could otherwise have been delayed and done after the patients' skin smears became negative and the multidrug therapy completed.

In one of the operated eyes there was severe postoperative uveitis with formation of a fibrinous layer over the anterior surface of the intraocular lens. In this same patient a similar surgery done a few months earlier did not cause such a severe inflammation. The patient had been on clofazimine during the first surgery, and this could have had a suppressing effect on the postoperative uveitis since clofazimine is known to be effective as an antireactional drug<sup>(5)</sup>.

There are several reasons for developing uveitis after cataract surgery but, most often, the uveitis is transitory and subsides rapidly without leaving any permanent sequelae. Even in persons without leprosy, uveitis following cataract surgery is known to be unpredictable and may vary in severity and duration from one person to another without apparent cause. An intraocular lens is a foreign substance introduced into the eye and may contribute significantly to postoperative inflammation<sup>(3)</sup>.

In the other leprosy patient, although the immediate postoperative inflammatory reaction in the eye was not more than that seen in nonleprosy patients, a cautious approach was undertaken by starting the patient on a daily oral dose of 40 mg of prednisolone. However, what is essential is an extremely fastidious approach in assessing the eyes daily under a slit lamp. This should be done from the first postoperative day onward until the surgeon is sure that the inflammation has been adequately controlled and that the occurrence of a destructive uveitis is remote. This period is varied and may sometimes last for several weeks. If there is evidence that the uveitis taking

place is greater than what is usual after an extracapsular cataract extraction, there should be no hesitation in using the appropriate subconjunctival steroid injections or oral steroids.

These two patients will be carefully followed up and their ocular status monitored at frequent intervals.

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