Case Report:
Ocular Complications in Hansen’s Disease.

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Abstract: We report a case of lagophthalmos in a migrant Worker with Hansen’s Disease with Type I reaction. The case suggests that maintenance of the infection pool by migrant labourers in Karnataka is a serious threat to the target of leprosy elimination.

Key Words: Leprosy, Lagophthalmos, Dry eye

Introduction:
Hansen's disease is a chronic granulomatous, infectious disease caused by Mycobacterium leprae. Annual New Case Detection Rate (ANCDR) of leprosy in India is 9.98 per 100,000 population. Whilst the Prevalence rate (PR) stands at 0.68 per 10,000 population for the entire nation, it is 0.44 per 10,000 population in Karnataka, and it is one of the states to have achieved the level of elimination.[1] However, maintenance of the infection pool by migrant labourers in Karnataka constantly threatens this status of elimination.

Case Report:
A 30 year old migrant worker from West Bengal, came with inability to close his left eye and burning sensation in the same eye since one year. He also complained of a new hypopigmented patch over the right forearm since few months. He gave history of seeking treatment for leprosy 2 years back for a full course and was declared cured as per both the patient as well as the NLEP card that he carried. On general examination, a 15 x 10 cm hypopigmented and hypaesthetic facial patch was present, extending from the left temple to the cheek. Also, a hypopigmented patch was present over the right forearm extending up from the dorsum of the palm, with a thickened ulnar nerve. On local examination, there was absence of wrinkling on left side of forehead. Right palpebral fissure was 12 cms while left was 14 cms. Left sided lagophthalmos with good Bell’s phenomenon was present. Visual acuity in both eyes was 6/6, N6. Tear film breakup time (TBUT) was 12 seconds for the right eye while it was 4 seconds for the left eye. Schirmer’s test was 15 mm for the right eye and 8 mm for the left after 5 minutes. This was suggestive of left dry eye. Rest of examination was within normal limits. Dermatology reference was sought and a diagnosis of multibacillary Hansen’s disease with Type I reaction was established. He was restarted on MB-MDT, oral steroids and lubricant eye drops.
Discussion:
Hansen's disease is a chronic granulomatous disease caused by *Mycobacterium leprae*. Clinically, it is classified into multibacillary or lepromatous leprosy (LL), paucibacillary or tuberculoid leprosy (TL) and borderline leprosy (BL). The social stigma associated with leprosy has been a great barrier to self-reporting and early diagnosis and treatment of this condition since the medieval times. While the obvious disfiguring limb deformities are definitely a hindrance to a person’s occupation and productivity, visual handicap is an even greater disaster for such a patient, making his day to day activities extremely challenging. Though completion of appropriate course of anti leprosy treatment changes the status of the individual patient to ‘cured’ in the registers of leprosy control programs, it does not prevent subsequent development of disabling complications, particularly those of the eye. Hansen’s may affect the eyes in the following four ways: by direct invasion, facial nerve and/or ophthalmic division of trigeminal nerve involvement, by initiating a hypersensitivity reaction to the antigenic substances released upon breakdown of lepra bacilli and by virtue of changes in skin, lids and lacrimal system.[2]

Immunologic reactions to *M. leprae* antigens are generally classified as either type 1 or type 2. Patients with reversal reaction are more likely to present with orbicularis oculi weakness and lagophthalmos.[3] Here, we report a case where the patient came after two years with development of eye complications and Type I reaction.

Conclusion:
In conclusion, early detection, effective treatment, and proper control of reactions are essential to reduce the eye complications in leprosy patients. A high index of suspicion is required on the dermatologist’s part when a cured patient comes back with any of the immunological reactions especially Type I or reversal reaction in which the incidence of a new eye pathology is more, and the patient should be closely followed up by the ophthalmologist. Also, regular health check-ups for migrant workers is strongly urged.

References: