



A CASE OF LEPROSY WITH MAJOR OCULAR ANTERIOR SEGMENT MANIFESTATIONS.

Dr. Avani Patil*

Resident in Department of Ophthalmology, Dr.D.Y. Patil Hospital and Research Institute, Kadamwadi, Kolhapur. *Corresponding Author

Dr. Milind Sabnis

Professor and Head of Department of Ophthalmology, Dr.D.Y. Patil Hospital and Research Institute, Kadamwadi, Kolhapur.

ABSTRACT

Leprosy is a chronic disease which hampers the physical, social and economic well being of an individual. Gerhard Hernick Armauer Hansen in Norway in 1873 first described Mycobacterium leprae as its causative agent. It is one of the oldest recorded infections affecting humanity (2000 BC). Around 10 to 15% of patients with ocular leprosy end up in blindness while the prevalence of blindness due to leprosy in India is 4.7%. About 20% of leprosy cases on Multi drug therapy develop ocular complications, 11% of which are vision threatening hence; ophthalmological monitoring is required following initiation of MDT. We are reporting below a known case of lepromatous (cutaneous) leprosy showing major external ocular manifestations of the disease in both eyes. Our aim was to initiate immediate treatment in order to avoid blindness in future. Medical as well as surgical therapy was given and patient showed visual improvement over a period of two months.

KEYWORDS : irreversible blindness, secondary cataract, exposure keratopathy

Introduction - Leprosy or Hansen's disease is an infection that primarily affects the skin, the peripheral nerves and the eye causing chronic granulomatous inflammation.^[1] Leprosy is caused by acid fast bacillus Mycobacterium Leprae.^[2] Of all the cases, about one third have complications relating to the eye. It occurs in two forms-

- 1) Lepromatous (cutaneous) type
- 2) Tuberculoid (neural) type^[2]

There is indirect ocular involvement caused by complications resulting from neuroparalytic and neurotrophic keratitis^[2]. Ocular involvement is usually late in lepromatous type of disease in which there is an initial superficial infection with conjunctivitis, episcleritis or keratitis followed by uveitis^[2]. The exact mode of disease transmission is not known but it most likely spreads through aerosols of nasal secretions via nasal or respiratory mucosa.^[3] Ocular signs are mainly due to direct bacterial invasion.^[6]

Case History - A 55 year old male came to the eye O.P.D complaining of diminution of vision in both eyes associated with severe irritation and foreign body sensation since 1 month. He is a known case of leprosy since 15 years and on treatment for the same. The patient is showing cutaneous features and deformities such as lepromas, saddle nose, claw hand, shortening and loss of digits etc. On ocular examination:

- a) Visual Acuity: RE – 6/36 with pinhole improving upto 6/24
LE – 6/60 with pinhole improving upto 6/36
- b) Schirmer's test type 1: RE- 8mm; LE-7mm
- c) Intraocular tension: 20.6 in both eyes (measured with Goldmann applanation tonometer)
- d) Lacrimal sac syringing- Patent in both eyes
- e) On slit lamp biomicroscopic examination- Both eyes show the following features -

Lids: Madarosis, blepharochalosis, ectropion and trichiasis
Conjunctiva: normal

Cornea: Pannus, corneas diffusely taking stain with fluorescein strip (exposure keratopathy)

Sclera: Diffuse and nodular episcleritis
Iris and pupil: iris pearls, iris atrophy and corectopia
Lens: Posterior sub capsular cataract

f) Dilated ophthalmoscopy (Direct and Indirect) – no abnormality detected

Investigations: Skin and ocular specimens were negative as patient was already on anti-leprosy medications (Multi drug regimen). Medical therapy for exposure keratopathy and episcleritis was

initiated which included tear substitutes, cold compressions and topical antibiotics. Protective eye wear were prescribed. After one month following this, cataract extraction with PCIOL implantation was done. Monthly follow ups were advised to keep close watch for posterior segment involvement.

Discussion - The possible ocular complications of leprosy include^[4] –
a) Lids: madarosis, blepharochalosis, ectropion, entropion, trichiasis
b) Cornea: thickened corneal nerves, exposure keratopathy, superficial stromal keratitis
c) Iris: acute iritis, iris pearls, corectopia, polycoria.
d) Sclera: episcleritis, scleritis, staphyloma
e) Lens: secondary cataract
f) Retina: retinal vasculitis, papillitis, peripheral choroidal lesions
g) Lacrimal apparatus: acute and chronic dacryocystitis
h) Other features: facial nerve palsy, decreased corneal sensation, uveal effusion, phthisis bulbi etc.^[6]

Investigations include skin and ocular specimens which occasionally show acid fast bacilli. The lepromin test distinguishes between tuberculoid and lepromatous leprosy.^[6]



Images showing external ocular findings in a case of leprosy

Treatment options include – 1) systemic- combination regimens of antibiotics such as dapsone, rifampicin and clofazimine. 2) ocular-steroids for anterior uveitis and specific complications are addressed as indicated.^[6] Patients with long standing disease or who have been treated but remained with sequelae have two to three times higher prevalence of blindness than general population. Hence timely management is required as they are already at a high risk of disability due to the disease itself.^[5]

Conclusion - This patient developed vision threatening complications due to leprosy. But prompt diagnosis and treatment with adequate follow ups will help prevent irreversible blindness in future and improve his quality of life.

References -

- 1) Yanoff M, Duker Jay S. Ophthalmology. 3rd edition. Mosby Elsevier; 2008

- 2) Sihota, Tandon, Diseases of the Uveal Tract, Parson's Diseases of the Eye, 22nd edition, Elsevier, a division of Reed Elsevier India Private Limited, 2015; 245
- 3) Leprosy Fact Sheet, n0 101; WHO, 2014: www.who.int/mediacentre/factsheets/fs101/en/
- 4) Ffytche TJ, McDougall AC. Leprosy and the eye: a review. J R Soc Med. 1985; 78(5): 397-400
- 5) M Hogeweg, JE Keunen. Prevention of blindness in leprosy and the role of the Vision 2020 Programme. Eye. 2005; 19, 1099-1105.
- 6) Brad Bowling, Uveitis, Kanski's Clinical Ophthalmology A Systemic Approach, eighth edition, Elsevier, 2016; 453-455