

Typical Iris Pearls in Lepromatous Leprosy

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INTRODUCTION

Leprosy (Hansen's disease) is a chronic granulomatous inflammatory disease caused by bacterium *Mycobacterium leprae*. Leprosy majorly affects the skin, peripheral nerves and eyes. In India, various estimates have suggested ocular complications to vary from 5 - 80 % in leprosy.^{1,2} Depending on the immune system of the patient to bacteria, various ocular manifestations are seen. Ocular manifestations are seen more commonly in lepromatous leprosy, due to direct invasion by *M. leprae*, through the blood vessels.³ About 40 - 50 % patients of leprosy have reversible blindness due to cataract.⁴

In patients diagnosed of leprosy, ocular manifestation seen are – lagophthalmos, madarosis, trichiasis, corneal exposure, iridocyclitis, corneal ulceration and scarring, episcleritis, scleritis, ocular hypotony, keratitis, iris atrophy, iritis, conjunctival and scleral leproma, uveitis, uveal effusion, retinal pearls, chorioretinitis, retinal detachment.^{5,6} In eye, Leprosy bacilli are likely to get lodge in the anterior segment of eye, as they are the coolest parts of the globe of the eye compared to posterior segment of eye. In the anterior segment, it particularly involves – the ciliary body and iris due to high vascularity. Clinically, it is seen as iris pearls, which are pathognomonic of leprosy. They are asymptomatic, 0.3 to 1.0 mm diameter, dull yellow in colour. They are seen at an early stage of the disease and are not associated with any inflammatory changes in the anterior chamber.^{7,8} Histologically, it consists of lepromatous bacilli packed within mononuclear cells or acid-fast material with accompanying foreign body reaction.

They are found around pupillary margins and may occur in deep iris stroma. Iris nodules are not dangerous, but they serve useful guide in diagnosis of ocular leprosy which may co-exist with signs of iridocyclitis. They may coalesce and become pinched off and drop into anterior chamber, where it is absorbed without causing inflammatory reaction.⁹ They never disappear in patient of leprosy who have completed the multidrug therapy for multibacillary leprosy, but remain dormant in arrested cases, which are composed of amorphous acid-fast material.

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PRESENTATION OF CASE

A 70-year-old male patient was referred from dermatology to ophthalmology outpatient department for diminution of vision in both the eyes for the last 6 - 8 months. The patient was a diagnosed case of Multibacillary Hansen's Disease (lepromatous leprosy) 10 years back, for which he received multidrug therapy consisting of rifampicin 600 mg with clofazimine 300 mg monthly and dapsone 100 mg / day, clofazimine 50 mg / day for duration of 1 year. No other positive systemic history.

No mutilations were detected in hands and feet. No neurological deficits and thickened nerves were present.

Ocular Examination

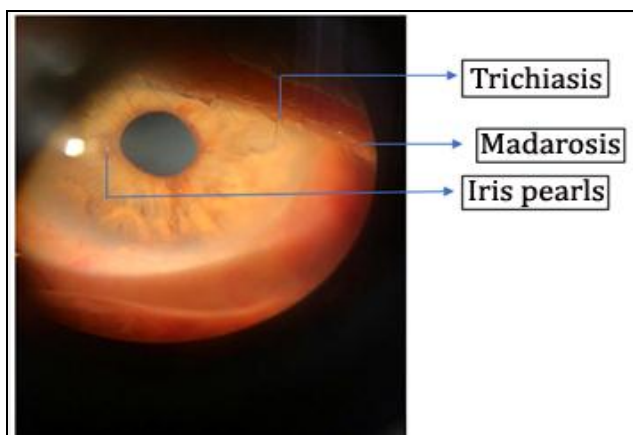


Figure 1. Typical Iris Pearls in Right Eye in Lepromatous Leprosy

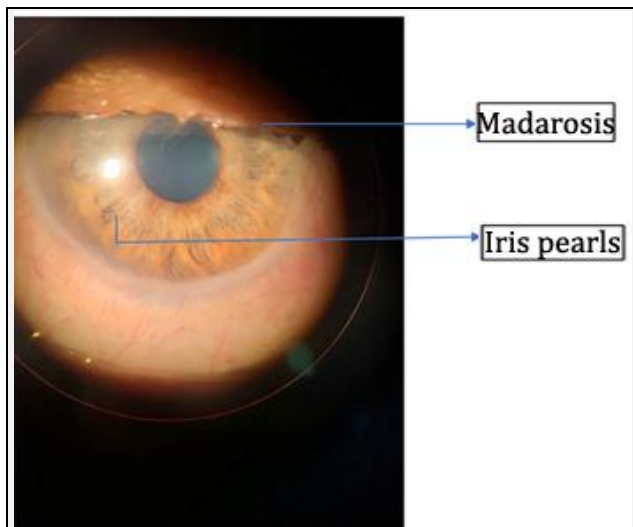


Figure 2. Typical Iris Pearls in Left Eye in Lepromatous Patient

The best corrected visual acuity (BCVA) was 6 / 36 in right eye and 6 / 18 in left eye. Slit lamp bio microscopy in both eyes, revealed madarosis, trichiasis, and thickened lid margin. Cornea had diffuse nebular macular opacities not involving visual axis and corneal sensations were reduced in both eyes. Multiple minute pinpoint to pin head white spots suggestive of typical iris pearls were seen on the anterior surface of iris, not only near the pupillary margin but also in the peripheral part of iris associated with iris stromal atrophy. Left eye had nuclear sclerosis Grade 1 and right eye had nuclear sclerosis Grade 2. The intra-ocular pressure was 9 mmHg in both the

eyes. Fundus examination was within normal limits in both eyes.

Laboratory investigations showed haemoglobin of 13.8 g / dL, leukocyte count of 8,200 / mm³, platelet counts of 198,000 / mm³ and ESR of 9 mm, serum calcium was 9.0 mg / dL. Chest x-ray was normal. Patient was advised cataract extraction and accordingly patient underwent small incision cataract surgery with intra ocular lens implantation in our institute.

DISCUSSION

Leprosy is one of the diseases which causes frequent ocular complications as compared to other bacterial infections.¹⁰ Ocular Leprosy is a threatening condition leading to permanent vision loss.¹¹ Most of the cases of ocular leprosy occur secondary to lepra reaction. Involvement of iris in lepromatous leprosy patients is one of the most important aspects as it leads to blindness.³ Iris pearls are seen in 4.6 % of leprosy patients.¹¹ These iris pearls are early manifestations of ocular leprosy, which require prompt diagnosis, adequate treatment and follow ups. Sometimes, larger nodules are seen in angle of anterior chamber and at pupillary margins which can eventually lead to poor prognosis.^{10,12} In our patient apart from pathognomonic iris pearls in both eyes, cataract was the only cause for decrease vision in both eyes. Hence, the patient underwent small incision cataract surgery with intra ocular lens implantation.

Since the patient was not willing to undergo surgery on left eye due to personal preference, patient was given best possible spectacle prescription at the end of 6 weeks for both the eyes. Even after completion of treatment, when patient is considered as cured, when skin biopsies are negative, it may relapse and continue to demonstrate ocular signs and symptoms.¹¹ In the eyes of leprosy patients, bacilli remain in the iris macrophages even after multibacillary treatment has been completed. Their antigens are present in iris tissue which are responsible for recurrent reactions. This suggests regular ocular examination is important, even after systemic disease is treated.^{10,12} *M. Leprae* persists in fibrosed nerve and causes recrudescence of the disease.¹² It can lead to acute exacerbations even after treatment, which can be ocular threatening condition,^{13,14,15} or it may be associated with posterior segment pathology like retinal pearls or chorioretinitis which can ultimately lead to permanent visual loss. Thus, the emphasis of active and regular follow-ups of such cases.^{16,17} is important. Hence, this patient was advised to follow up every 6 months after cataract extraction.

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Disclosure forms provided by the authors are available with the full text of this article at jemds.com.

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