Anterior chamber angle granuloma: A rare ocular manifestation of histoid lepromatous leprosy

Deepak Soni, Bhavana Sharma, Samendra Karkhur

Leprosy is a chronic multisystem disease caused by Mycobacterium leprae with frequent ocular manifestations such as madarosis, lagophthalmos, lid abnormalities, impaired corneal sensations, chronic uveitis, and cataract. Granulomas are characteristic lesion of lepromatous leprosy commonly seen as conjunctival and iris granulomas. We report a case of leprosy with a rare ocular manifestation in the form of angle mass lesion or suspected granuloma which has not been reported before and its successful management following treatment with favorable outcome. The index case also highlights the anterior segment fluorescein angiography features of the lesion and study of its vascular pattern.

Key words: Angle granuloma, anterior segment fluorescein angiography, anterior uveitis, leprosy, leprosy granuloma

Hansen’s disease, commonly known as leprosy, is a chronic granulomatous infectious disease caused by Mycobacterium leprae.1 Ocular involvement in Hansen’s disease is very common with reported incidence ranging from 50%–85%.2,3 The incidence of ocular complication in leprosy depends on multiple factors varying from type and duration of disease per se to antileprosy drug treatment received.4,5 Granuloma or lepoma, a circumscribed and discrete granulomatous nodule rich in lepra bacilli, is a characteristic lesion of lepromatous leprosy commonly seen as conjunctival and iris granuloma. We present a histopathologically proven case of leprosy with a constellation of dermatological manifestations and mild anterior uveitis with a rare presentation of anterior chamber angle mass, presumably a granuloma.

Case Report

A 40-year-old Indian male patient presented with pain, redness, and whitish lesion in left eye (LE) for 1 month for which he was using topical ayurvedic medicine prescribed over the counter. Symptoms had worsened with associated diminution of vision in LE for last 1 week. Past ocular history was unremarkable. Patient was a diagnosed case of histopathologically confirmed histoid lepromatous leprosy 6 years back and was irregular on treatment for leprosy.

His BCVA was 20/20 in right eye (RE) and 20/60 in LE. Ocular examination revealed madarosis in eyebrows with normal contour of lids and eye-lashes in both eyes [Fig. 1]. A nodular nontender lesion with normal appearing overlying skin was present just below the right eyebrow [Fig. 1b]. Corneal sensations and pupils were normal and intraocular pressure was 14 and 16 mmHg in right and left eye, respectively. There was circumciliary congestion with dilated episcleral and conjunctival vessels [Fig. 2a]. LE slit-lamp examination revealed an orange-brown lesion arising from the angle with surface tortuous vessels; associated with cells 0.5+ and minimal flare. Anteriorly the lesion was in contact with corneal endothelium and posteriorly limited to iris plane, overall, two clock hours in circumferential extension [Fig. 2a and b]. Gonioscopy revealed open angles except for the temporal angle, which was not visualized due to the lesion. Both eye fundus examination was unremarkable.

Anterior segment fluorescein angiography showed early hypofluorescence of the mass lesion with filling of the feeder vessel [Fig. 2c and d]. In later frames, the interphase became hyperfluorescent owing to the surface vascularization, while the lesion per se remained hypofluorescent, indicating its relatively avascular nature.

On general examination, patient had multiple skin lesions [Figs. 1a, b and 3a-c] for which a dermatological consultation was sought. Patient had multiple well-defined papules/plaques and nodular lesions over face, forearm, and hip; some of which were ulcerated and surrounded by widespread xerosis [Fig. 3a and b] and nodular lesions of about 1 × 1 cm over the distal part of the penile shaft [Fig. 3c]. Routine blood investigations, Mantoux, chest X-ray, VDRL, HIV I and II tests were negative. Ziehl-Nielsen (ZN) staining of slit-skin smear from ear lobe revealed the presence of acid-fast bacilli with high bacterial index [Fig. 3d].

A diagnosis of LE presumed angle granuloma with mild anterior uveitis secondary to histoid lepromatous leprosy was made. Patient was started systemically on multidrug treatment (MDT) therapy (standard regime—rifampicin: 600 mg once a month, dapsone: 100 mg daily, clofazimine: 300 mg once a month and 50 mg daily; duration = 24 months) in liaison with dermatologist. In addition to the systemic antileprosy therapy, topical steroids (prednisolone acetate 1%) and cyclopelic (homatropine 2%) were started. Follow-up

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visit after 1 month showed reduction in the size of the angle granuloma [Fig. 4a and b] with significant improvement in skin papules and penile lesions. Patient was continued on antileprosy treatment and topical steroids were gradually tapered until the anterior segment was quiet and no cells or flare was present. However, the patient is still under follow-up with dermatology clinics for MDT and with ophthalmology clinics as required, with no relapses till date.

Discussion

Hansen’s disease has the highest incidence, up to 85%, of ocular involvement than any other single systemic disease.[2,3] Ocular involvement in leprosy can be classified into two groups, potentially-sight-threatening (PST) and the non-sight-threatening lesions.[5] PST lesions comprise lagophthalmos and its sequelae, decreased corneal sensations and its sequelae, scleritis, chronic iridocyclitis, and cataract. Although non-sight threatening lesions like madarosis have no visual consequences, they contribute significantly to the social stigma which these patients face.[6]

Cases of ocular granuloma reported in literature are only few. Iris granuloma has been reported with granulomatous anterior uveitis[7] and hypopyon uveitis[8] in leprosy. Nirankari and Chaddah described a case of ciliary body granuloma with chronic uveitis in a young patient of lepromatous leprosy.[9] Yuen et al. reported a case of very rare corneal leproma as an initial feature of lepromatous leprosy.[10] Earlier different types of uveal involvements have been described such as typical acute granulomatous iridocyclitis, pathognomonic lesions of ocular leprosy—iris-pearls and lepra-pearls, uveitis with hypopyon, and neuropsychic uveitis.[7] We report a unique case of granuloma of anterior chamber angle with mild uveitis in a patient with lepromatous leprosy. In general, the ocular clinical picture of leprosy is usually mixed, with several features involving multiple ocular structures simultaneously. In our case, only finding was angle granuloma with associated mild anterior uveitis.
Most common features like lagophthalmos and corneal hypoesthesia were missing.[10]

Histoid leprosy originally described by Wade is a well-recognized rare variant of lepromatous leprosy with characteristic clinical picture.[11] It is characterized by the presence of well-defined, shiny nodular lesions or papules, with stretched overlying skin and at times with constriction around their base. Histoid lesions can arise as part of relapse especially in patients who had received dapsone as monotherapy or occur de novo.[11] Patient in our case was irregular on treatment and was lost to follow-up for leprosy treatment in the past. Genital lesions have been infrequently described as a manifestation of leprosy, predominantly with histoid type.[11]

Conclusion
We report a rare case of histoid leprosy with a unique ocular manifestation in the form of angle mass without associated, significant anterior chamber inflammation in the form of granulomatous uveitis. This is also the first-time anterior segment angiography has been performed to study the vascular pattern in such a lesion, which also helped us to predetermine the amount of bleeding; should the biopsy of the lesion have been undertaken. The case was successfully managed using systemic MDT therapy and topical corticosteroids. We did not resort to biopsy, since the lesion responded well to primary treatment and the associated complications of the biopsy from anterior segment could be avoided.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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