



LITERATURE REVIEW

MELIOIDOSIS PRESENTING AS ORBITAL CELLULITIS WITH RETRO ORBITAL ABSCESS – REPORT OF A CASE WITH REVIEW OF LITERATURE

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ABSTRACT

Melioidosis is a clinically diverse tropical infection caused by Gram negative environmental saprophyte *Burkholderia pseudomallei*. The disease is endemic in Southeast Asia and northern Australia with sporadic case reports being reported in India. It usually causes septicemia and results in multifocal infection, especially in those with immunocompromised status. Localized melioidosis occurs as an acute suppurative form. We present a case of orbital cellulitis with retro orbital abscess in a diabetic male in whom a diagnosis of Melioidosis was rendered.

KEY WORDS : Melioidosis, *Burkholderia pseudomallei*, Orbital cellulitis, Retro orbital abscess, Diabetic

INTRODUCTION:

Melioidosis is a common tropical infection. In India melioidosis has been reported sporadically from several parts of the country, including South western regions namely Manipal, Mangalore and surrounding regions in Karnataka.^[1-3] In the absence of laboratory support this disease may be under diagnosed and hence few cases are reported in literature. Ocular presentations of melioidosis are rare; however cases of endophthalmitis, keratitis and orbital infections have been reported in literature. We present an interesting case of orbital cellulitis with retro orbital abscess caused by *Burkholderia pseudomallei*.

Case Report:

A forty year old male patient, a known diabetic since 20 years presented with complaints of progressively increased right orbital swelling [Fig 1] since 20 days associated with high grade fever. On examination external ophthalmoplegia of right eye with congestion, ecchymosis and proptosis of right eye. Magnetic resonance imaging of the orbit revealed right orbital cellulitis with multiple retro orbital abscess, however no intracranial extension seen [Fig 2]. Hematological parameters revealed leukocytosis. Biochemical parameters were within normal limits. Blood culture grew *Burkholderia pseudomallei* with sensitivity to Ceftriaxone. He was subsequently started on Inj. Ceftriaxone thrice daily for 3 weeks. Although he was advised drainage of the orbital abscess patient refused the procedure. His symptoms improved and he was discharged with the advice to continue oral antibiotics with trimethoprim/sulfamethoxazole for 12 weeks. On follow up the patient had improved symptomatically.

DISCUSSION:

The causative organism of Melioidosis, *B.pseudomallei* was first isolated by pathologists Whitmore and Krishnaswami in 1911 at Rangoon. Diabetes mellitus is the most common underlying disease associated with melioidosis in most studies.^[4] Other predisposing factors identified are chronic renal disease, chronic alcoholic liver disease, immunodeficiency.^[5] Ocular involvement is rare in melioidosis. A 23 year retrospective review of Ocular melioidosis by Sasi Yaisawang et al^[6] revealed only 16 cases of melioidosis with ocular involvement. There are few case reports that describe orbital cellulitis with subperiosteal abscess caused by *B.pseudomallei*

leading to orbital apex syndrome.^[7] Chen KJ et al reported a case of endogenous endophthalmitis caused by *B.pseudomallei* that was treated with systemic and intravitreal antibiotics.^[8] The infection is under diagnosed in India, probably due to a low index of suspicion among clinicians and clinical microbiologists.

Burkholderia pseudomallei on Gram staining is Gram negative and tends to stain darkly at the ends giving a safety pin appearance. Definitive diagnosis of melioidosis requires a positive culture of *B.pseudomallei*.

The International consensus recommendations for the treatment and prophylaxis of melioidosis was developed by US Public health Emergency Countermeasures an expert group in 2010^[9] recommends treatment protocol in two phases acute phase and eradication phase. Acute phase treatment is to prevent sepsis and the recommended treatment is Inj. Ceftriaxone intravenously 8th hourly for 10-14 days. For the eradication phase continuation of therapy in the form of oral drugs, trimethoprim/sulfamethoxazole to prevent relapse is recommended for duration of minimum 12 weeks.

Drainage of the abscess is recommended in addition to antibiotic treatment. Culture is mandatory to confirm the diagnosis, as treatment is very specific in two phases. Most cases of ocular melioidosis present as disseminated septicemic melioidosis which is associated with blood stream infection.

The ocular involvement in melioidosis is rare but outcomes are devastating. The most common ocular involvement is orbital cellulitis and endophthalmitis. The morbidity is high and hence it is crucial to employ a high index of suspicion.

CONCLUSION:

Ocular melioidosis is much more prevalent than what is reported in India, and awareness and high index of suspicion amongst clinicians and microbiologists is mandatory. Prompt diagnosis, correct choice of antibiotics and early surgical intervention are crucial for a final good outcome.

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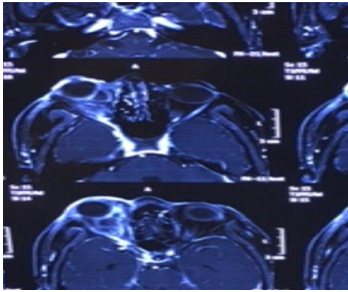
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Fig 1 : Clinical photograph showing right orbital swelling and cellulitis.



Fig 2 : MRI image showing showing multiple right orbital cellulitis and retro-orbital abscess



REFERENCES:

1. Vidhyalakshmi K, Lipika S, Vishal S, et al. Emerging clinic-epidemiological trends in melioidosis: analysis of 95 cases from western coastal India. *Int J Infect Dis.* 2012;16:491-7.
2. Saravu K, Vishwanath S, Kumar RS et al. Melioidosis – a case series from south India. *Trans R Soc Trop Med Hyg.* 2008;120:18-210.
3. Gopalakrishnan R, Sureshkumar D, Thirunarayanan MA, et al. Melioidosis: an emerging infection in India. *J Assoc Physicians India.* 2013;61:24-6.
4. Suputtamongkoi Y, Chaowagul W, Chetchoisakd P et al. Risk factors for melioidosis and bacteremic melioidosis and bacteremic melioidosis. *Clin Infect Dis.* 1999;29:408-13.
5. Currie BJ. Melioidosis: An important cause of pneumonia in residents of and travelers returned from endemic regions. *Eur Respir J* 2003;22:542-50.
6. Sasi Y, Somkiat A, Ploenchan C, Surasakdi W, Peerapat P. Ocular involvement in melioidosis: a 23-year retrospective review. *J Ophthalmic Inflamm Infect.* 2018;8:5
7. Saonanon P, Tirakunwichcha S, Chierakul W. Case report of orbital cellulitis and necrotizing fasciitis from melioidosis. *Ophthal Plast Reconstr Surg.* 2013;29:81-4.
8. Chen KJ, Sun MH, Hou CH, et al. Burkholderia pseudomallei endophthalmitis. *J Clin Microbiol.* 2007;45:4073-4.
9. Lipsitz R, Garges S, Aurigemma R et al. Workshop on treatment of and post exposure prophylaxis for Burkholderia pseudomallei and B.mallei Infection. *Emerg Infect Dis.* 2012;18:2