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Meningitis caused by micrococcus luteus: Case report and review of literature

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Abstract
Micrococcus Luteus is a gram positive, non-motile, non-sporing cocci belonging to micrococcea family. They are considered as normal comensal of human skin and upper respiratory tract. Few cases have been reported as opportunistic infection or catheter/ shunt related infection. We here report a case of meningitis caused by Miccrococus luteus in previously healthy infant.

Keywords: Micrococcus.

Introduction
Micro (small) Coccus(spherical) Luteus(Yellow) is a gram positive, non-motile, non-sporing cocci belonging to micrococcea family.[1,2] Initially named as Micrococci lysodeikticus by Alexander flaming who discovered them in 1928, later Ganz et al renamed them as Micrococcus luteus in 2002. They are considered as normal commensal of human skin and upper respiratory tract and are considered harmless.[3-6] Few cases have been reported as opportunistic infection or catheter/ shunt related infection.[10-19] We here report a case of meningitis caused by Miccrococus luteus in previously healthy infant.

Case Summary
One year old male was brought to emergency with history of fever for 3 days and seizures from last 15 min, Baby was immunized as per age with normal developmental milestones. Child was managed with iv fluids and anibiotics. Investigations sent showed normal electrolytes, leucocytosis with raised CRP, CSF examination showed 350 cells (60% mononuclear cells). CSF culture showed growth of gram positive cocci, identified as Micrococcus luteus by Vitek 2, sensitive to all the commonly used antibiotics. IV antibiotics were continued as per the sensitivity profile (Ceftriaxone). Infant responded to the treatment, became afebrile, had no episode of seizure after admission, but had depressed consciousness and dystonia. MRI brain showed bilateral mid brain infarct. Child was discharged after completion of 10 days antibiotics with residual neurological sequeae.

Discussion
Bacterial meningitis is one of the most potentially serious infections occurring in infants and older children. This infection is associated with high rate of acute complication and long term morbidity.[25] Micrococcus luteus is a gram positive cocci which was classified along with staphylococci until 1975, based on Baird parker scheme.[7] A randomized controlled trial done by angelika et al has shown that Photolyase, a endonuclease enzyme secreted by M luteus has DNA repair property and has a role in preventing polymorphic light eruption. [8,9] M luteus is usually regarded as a non pathogenic commensal of human skin and upper respiratory tract,[3-6] however M Luteus have been found as opportunistic pathogen in immunocompromised patients. Micrococcus luteus has been implicated as the causative agent in cases of meningitis,[11-13] endocarditis,[17-19] intracranial abscesses,[14] pneumonia,[15,16] and septic arthritis.[10] In addition, it has also been reported in infections associated with indwelling intravenous lines, ventricular shunts and prosthetic valves.[20-24] In 1992, case reported by AdangRP et al emphasizes that the pathogenicity of this skin commensal is not limited to infections in tissues surrounding prosthetic devices or indwelling intravenous catheters, especially in immunocompromised patients.

Almost all of the reported cases till date have been associated with medical devices/catheters or in immunocompromised hosts. We here present a case report of meningitis caused by micrococcus luteus in a previously healthy infant who responded to proper antibiotic therapy but left with neurological deficit.

Summary
This report emphasizes that Micrococcus luteus should be considered as an emerging pathogen in not only immunocompromized but also in immunnocompetent infants. With decreasing incidence of meningitis due to pneumococcus and H influenza due to vaccination, other organisms including micrococcus might be emerging organism in tropical countries.

Conclusion
To the best of our knowledge, we describe the first case of *M luteus* meningitis in an immunocompetant host. Therefore, clinicians should be aware of the rare possibility of *M luteus* meningitis.

Conflict of Interest: None.

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