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Aspergillus fumigatus spinal abscess in an immunocompetent child

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Aspergillus fumigatus Spinal Abscess in an Immunocompetent Child

Sir,

Aspergillus species are ubiquitous fungi in the environment and are the most common cause of invasive mould infections in immunocompromised patients.[1] Invasive Aspergillosis (IA) is a life-threatening infection that predominantly affects individuals with a compromised immune system. Other risk factors, such as but not limited to prolonged corticosteroid use, human immunodeficiency virus infection, cancers and chronic granulomatous disease have also been identified.[1] However, IA is rarely encountered in individuals with a healthy and fully functional immune system.[2]

A 10-year boy presented with a 3-month history of progressively worsening lower backache associated with high grade fever. There were no neurological symptoms associated with his complaints. There was no history of trauma which the parents could recall. A detailed history was negative for any concerns about the child's growth or recurrent infections that would suggest immunodeficiency. White blood cell counts in the past were normal, and were raised in accordance with the infection at this time. Past medical history revealed that he had undergone ultrasound of the spine which showed a collection of pus in the vertebral spaces from L_3-L_5. He was initially treated with antibiotics, with anti-staphylococcal coverage, and then later with Anti-tuberculous Therapy (ATT) with suspicion of tuberculosis of the spine, however, he showed no improvement. Thus, CT-guided drainage was performed and the thick pus obtained was sent for Gram stain, Acid-Fast Bacilli (AFB) smear and culture.

Gram stain, under low magnification (x100), showed a sheet of pus cells with branching aggregations of crystal violet stain (Figure 1A). However, at higher magnification (x1000), there was clustering of neutrophils around well septate hyphae (Figure 1B) and ghost hyphae (Figure 1C and 1D) which were not seen at low magnification. The 10%-KOH smear confirmed presence of hyphae and culture grew *Aspergillus fumigatus*. The patient was started on intravenous (I.V.) amphotericin B for one week, after which he was switched to oral itraconazole with close out-patient follow-up. At the end of 3 months the child was doing well, with no complaints of fever or back pain, however, he was lost to follow-up thereafter.

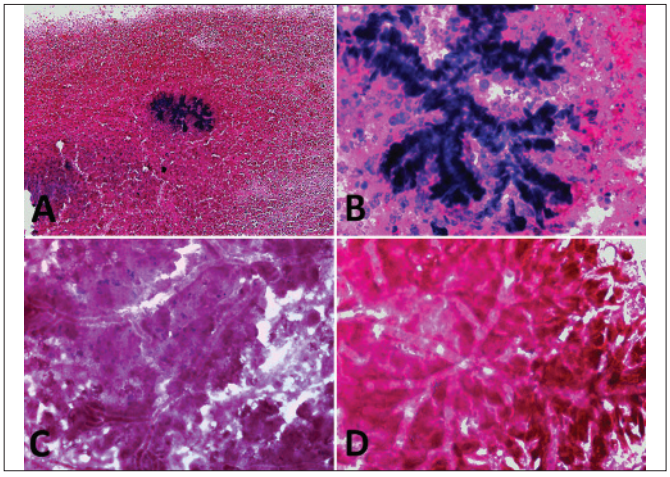

Figure 1: (A) Photomicrograph of gram stain showing sheets of pus cells with branching aggregations suggesting crystal violet artifacts (x100), **(B)** Clustering of neutrophils around hyphal forms seen on oil-immersion (x1000), **(C and D)** "Ghost hyphae" seen on other areas of the smear (x1000), not previously visible at low magnification.

IA predominantly affects immunocompromised patients, especially those with prolonged neutropenia.[1-4] IA in itself is an extremely rare occurrence in immuno-competent hosts.[1,2] Spinal involvement is an infrequent finding in immunocompromised patients, and even rarer in immunocompetent subjects. Tew *et al*. and Vaishya *et al*. reported cases of a 50-year man and a 35-year-old woman, respectively, suffering from *Aspergillus* spinal abscess.[3,4] Both these individuals had no evidence of immunodeficiency from history of laboratory investigations. Though neurological involvement with eventual paraplegia and fecal and urinary incontinence were present in both these cases, this patient presented with no neurological complaints other than back pain. Vertebral involvement with *Aspergillosis* is a rare phenomenon and is associated with high mortality.[1,3,5] Though surgical drainage and debridement were employed in the management of the above mentioned cases,[1,3] they developed a fulminant postoperative course with a fatal outcome. This patient however, responded well to conservative management with I.V. and then oral antifungal agents at a maximum follow-up of 3 months.

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