Successful Management of Spondylodiscitis in a three Years Old Girl: A Case Report

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Successful Management of Spondylodescitis in a Three Years Old Girl: A Case Report

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I. Introduction

Spondylodiscitis (SD), is infectious process of the spine involving vertebral bodies and intervertebral discs. It remains a rare condition with an estimated incidence of around one to two cases in 30000.2 This case report describes spondylodiscitis in a two years old girl who presented with acute back pain, irritability and inability to walk. SD although it’s rare disease, it should be kept as one of the differential diagnosis in children present with non-traumatic back pain. Staphylococcus aureus is the causative agent of SD accounting for 80% of the cases.2,7,14,15,16,17,18 Treatment of SD is usually a combination of both pharmacological and non-pharmacological.

II. Case Presentation

A two years and 11 months old toddler, previously healthy girl, presented to the emergency department in a tertiary center in Muscat, Oman in 2019, with a two weeks’ history of weakness of the lower extremities with back pain and slightly arched back. There was no history of trauma, unexplained weight loss, or any other systemic manifestation. There was no history of fever, joint pain or skeletal deformity, skin rash, seizure, or photophobia. She was not known to have any chronic diseases. She was up to date with her vaccinations. Her parents reported no exposure to individuals with similar symptoms. In addition, none of her family members and neighbors had recently suffered from chronic cough or unexplained weight loss. There was no history of previous admission.

On admission, she was irritable, her vital signs were within normal ranges. Her physical examination revealed normal gait with slight hyperextension of lower back. In addition, she was bearing weight with support due to pain and there was slight pain in lower back while flexion and extension of the back. Otherwise, no muscle wasting, full range of movement of all joints actively and passively, with normal tone, power and reflexes. A blood investigations revealed complete blood count: Hemoglobin of 9.2 g/dl, increase in platelet count of 736 \(^*\) 10^9/L, normal white cell counts and slight increased level of acute phase reactants C-reactive protein(CRP) of 11.1 mg/L and erythrocyte sedimentation rate of 42 mm/hour. Pelvic X-RAY was done and was reported as normal and Ultrasound hip showed no fluid in hip joint. She was started on non-steroidal anti-inflammatory medications and on vancomycin and ceftriaxone but the next day vancomycin was switched to flucloxacillin and child showed clinical improvement. Lumbar puncture was done as she was inactive and it showed normal microscopy, count, protein and glucose, with negative CSF and blood culture. On day five of admission, MRI done which showed bone marrow changes of L4 and L5 vertebrae associated with endplate irregularities and mild destruction, with loss of intervertebral space and indentation of thecal sac suggestive of spondylodiscitis due to pyogenic or granulomatous infection. Child was tested for Q fever, tuberculosis and brucellosis in which all test were negative. Child was treated with ceftriaxone and flucloxacillin for two weeks as she was responding to the treatment and finally discharged on oral cefdinir for four weeks after consultation with infectious disease doctor. On subsequent follow up as outpatient she showed marked improvement and she started to regain her full movement of lower limbs.

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distant focus of infection has been identified in most previously existing site of infection. In our case, there was no delay in establishing the correct diagnosis where it has been established in the fifth day of admission. Delays of diagnosis for four to six months have been reported 2,4. These delays are attributed to the often non-specific clinical presentation of children with discitis or SD and their inability to describe the site of discomfort 2,3,4. This delay can lead to an increase risk of permanent abnormalities 2. Its pathophysiology has not yet been clearly established, but in most patient, pathogens reach the spine hematogenously, starting from a previously existing site of infection 2,7. A prodrome with a distant focus of infection has been identified in most cases. Mylona et al. described these to include the genitourinary tract 17%, skin and soft tissue 11%, intravascular devices 5%, gastrointestinal tract 5%, respiratory tract 2% and the oral cavity 2%. A wide range of pathogens can cause this disease and many studies showed it is primarily monomicrobial bacterial infection. Many attempts to identify the causative pathogen of Discitis and SD of children through blood and/or vertebral aspiration cultures have failed to identify the organisms; causing related problems in selecting the most appropriate antibiotic therapy. 1,5,6,7,8,9,10,11,12,13. When positive, pyogenic bacteria are usually detected, with Staphylococcus aureus being the cause of discitis and SD in approximately 80% of the cases that occur in first months of life and in most of those that develop in older children. 2,3,4,5,6,7,8,9,10,11,12,13. The most specific imaging method to diagnose discitis is MRI 11. Intravenous antibiotic treatment, analgesia and physical rehabilitation treatment showed complete recovery in most cases. Treatment include pharmacological like antibiotics and non-pharmacological such as physiotherapy and bed rest 22. Mortality has dropped from 25-26% 2,4,5,6,7,8,9,10,11,12,13 to less than 5% 22 with antibiotics treatment.

IV. Conclusion

SD is a rare disease which represents an important disease in children and should be kept as deferential diagnosis in patients presented with back pain. High suspicion of the disease result in early treatment which reduce the risk of bone lesions requiring surgical interventions or the development of a permanent alteration of spine mobility. Clinical presentation varies according to age, however as in our case back pain, irritability, and walking difficulties are common signs and symptoms of the disease. MRI is a best modality to confirm the diagnoses of the disease. Antibiotics are the drugs of choice, taking into account the etiology has dropped from 25-26% 21,22 to less than 5% 22 with antibiotics treatment.

References


