

Spinal Brucellosis: Experience of Tertiary Medical City in Saudi Arabia

Sami Khairy MD; Munzir Abbas; Abdualh hashem; Abdulaziz Almubarak; ahmed aloraidi Department of Neurosurgery in King Abdulaziz Medical City, King Abdullah International Medical Research Center / King Saud bin Abdulaziz University for Health Sciences, Riyadh, Saudi Arabia



Introduction

Brucellosis is an endemic disease especially in Middle East and Meditation region. Saudi Arabia had the highest incidence rate in the middle east until late 1990s when the government started aggressive eradicate programme. In spite of this efforts ministry of health register more than 37000 case between 2004 and 2012.

T2 sagittal lumbar spine cut showing brucellosis infection with epidural collection



Methods

This is A retrospective study conducted in King Abdulaziz Medical City, Riyadh, Saudi Arabia. Eighty patients with spinal brucellosis during a period of 8 years (2008–2015) were included. Diagnosis was based on clinical presentation, laboratory findings, radiographic evidence. The Brucellar etiology was considered when seroagglutination tests were positive at a titer of 1/160 or higher, and/or Brucella spp were isolated in the blood or sample cultures.

Results

The mean age of patients was 58.1 years (60 males, 20 females). Back or neck pain (90% of patients), fever (75%), and sweats (45%) were the most common symptoms. Cultures of blood specimens from twenty patients (25%) were positive for Brucella. Twenty patients (25%) had motor weakness or paralysis. Epidural masses, paravertebral masses and psoas abscesses were detected in 80%, 70% and 35% of patients, respectively. The lumbar vertebra was the most frequently involved region with 68 cases (85%), followed by 4 cases in the thoracic (5%), 4 cases cervical (5%) and 4 cases in lumbosacral (5%) segments. There were no deaths or severe deterioration in this study.

Conclusions

Brucellar spondylitis should be considered in patients with back pain and fever in Saudi Arabia. Clinical presentation, laboratory finding, and radiological examinations help to confirm the diagnosis of spine involvement.

References

- 1)Franco MP, Mulder M, Gilman RH, Smits HL. Human brucellosis. Lancet Infect Dis 2007;7:775–86.
- 2)Pappas G, Papadimitriou P, Akritidis N, Christou L, Tsianos EV. The new global map of human brucellosis. Lancet Infect Dis 2006;6:91–9.
- 3)Aloufi AD, Memish ZA, Assiri AM, McNabb SJN. Trends of reported human cases of brucellosis, Kingdom of Saudi Arabia, 2004–2012. J Epidemiol Glob Health. 2015.
- 4)Christopher S, Umapathy BL, Ravikumar KL. Brucellosis: review on the recent trends in pathogenicity and laboratory diagnosis. J LabPhysicians 2010;2:55–60
- 5) Jokhdar HA. Brucellosis in Saudi Arabia: review of literature and an alarming case report in a hospital in Jeddah. Med J Cairo Univ 2009;77:47–55.
- 6) Ali AMAA, Alluwaimi AM. The incidents of human brucellosis in Al-Ahsaa area, Saudi Arabia. Sci J King Faisal Univ (Basic Appl Sci) 2009;10:115–21.
- 7)Price AC, Allen JH, Eggers FM, Shaff MI, Everette JA: Intervertebral disc space infection: CT changes. Radiology 149:725-729, 1983.
- 8)Smith AS, WeinsteinMA,Mizushima A, Coughlin B, Hayden SP, Lakin MM, Lanzieri CF: MR imaging
- characteristics tuberculous spondylitis vs. vertebral osteomyelitis. Am J Radiol 153:399-405, 1989.
- 9)Song KJ, Yoon SJ, Lee KB: Cervical spinal brucellosis with epidural abscess causing neurologic deficit
- with negative serologic tests. World Neurosurg 78: 376.E15-376.E19, 2012.
- 10)de Divitiis O, Elefante A. Cervical Spinal Brucellosis: A Diagnostic and Surgical Challenge. World Neurosurg. 2012;78(3):257-259.
- 11) Koubaa M, Maaloul I, Marrakchi C, et al. Spinal brucellosis in South of Tunisia: Review of 32 cases. Spine J. 2014;14(8):1538-1544.
- 12) Gangi SMS, Roushan MRH, Janmohammadi N, Mehraeen R, Amiri MJS, Khalilian E. Outcomes of treatment in 50 cases with spinal brucellosis in Babol, Northern Iran. J Infect Dev Ctries. 2012;6(9):654-659.
- 13) Malik GM. A clinical study of brucellosis in adults in the Asir region of southern Saudi Arabia. Am J Trop Med Hyg. 1997;56(4):375-377.
- 14) Longe AC, el-Tahir MI, al-Assaf M, Shatoor A. Staphylococcal vertebral osteomyelitis: case report. East Afr Med J. 1995;72(9):609-610.