Vertebral Osteomyelitis in adult patients – Characteristics and outcome

Matej Mustapic[1], **Klaudija Viskovic**[2] and **Ivana Zupetic**[3]
[1]Southern Alvsborgs Hospital, Sweden,
[2]University Hospital for Infectious Diseases, Croatia
[3]Sestre milosrdnice University Hospital Center, Croatia

Purpose: To analyze the initial clinical, laboratory, and Magnetic Resonance Imaging (MRI) findings in patients with vertebral osteomyelitis and to determine their correlation with the disease outcome.

Methods and Materials: A retrospective study of 110 patients with confirmed pyogenic Vertebral Osteomyelitis, treated in 5 years. Patients included in the study initially had clinical and biological examinations and MRI of the spine according to the same protocol. MRI findings were divided into moderate and advanced changes. Complete clinical recovery, residual neurological deficits, or pain and death were observed as the disease outcome and put in correlation with clinical and imaging findings.

Results: There was no significant difference in a clinical presentation at admission, number of affected vertebral bodies, or anatomic location between a group of patients with moderate and patients with advanced MRI changes. High Charlson Comorbidity Index (CCI) score and longer treatment with antibiotics were associated with advanced MRI changes ($p=0.006$ and $p=0.004$, respectively). Patients with advanced MRI changes more frequently underwent surgical intervention than patients with moderate MRI changes of Vertebral Osteomyelitis ($p=0.007$). There was no difference between patients with moderate and patients with advanced MRI changes regarding the disease outcome ($p=0.563$).

Conclusion: Although the patients with advanced MRI changes are more likely to need prolonged antibiotic therapy and surgical intervention, the findings of initially performed MRI in patients with pyogenic Vertebral Osteomyelitis have no prognostic value regarding the disease outcome. The advanced MRI changes in patients with Vertebral Osteomyelitis are more often observed in patients with high CCI scores, probably due to impaired immune response caused by diabetes or chronic renal failure or because of partial modulation of the immune response with medications in patients with Inflammatory Rheumatic Diseases.

Biography

Matej Mustapic is a medical doctor, Specialist in Radiology, Consultant in Musculoskeletal Radiology with a special interest in Sports Injuries and Rheumatology. As a part of PhD, he had been researching the correlation between MRI and Vertebral Osteomyelitis in adult patients which were published in 2016 in Acta Clinica Croatica. Between 2005 and 2017 he had been working and living in Zagreb, Croatia. Now he lives and works in Sweden where he has continued with research in the area of his expertise.

e: mmustapicm@gmail.com