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## SPONDYLODISCITIS: A CASE REPORT AND A REVIEW OF A NOVEL IMAGING TECHNIQUES

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**Introduction.** Spondylodiscitis is characterized by infection involving the intervertebral disc and adjacent vertebrae. Evidence suggests the incidence of spondylodiscitis is on the rise. The typical presentation usually includes fever and back pain. Spinal infection can lead to significant neural compromise, structural deformity and result in severe morbidity and mortality.

**Aim.** The aim of this report is to present clinical and radiological features of spondylodiscitis and to review the novel imaging techniques of spondylodiscitis.

**Material and methods.** A retrospective analysis of a medical history and radiological images of a patient who had been hospitalized in the Department of Infectious Diseases and Neuroinfections has been conducted.

**Results and discussion.** In September 2015 a 40-year-old male was admitted to the internal medicine department due to low back pain exacerbated by physical activity, radiating to the left lower limb. Symptoms occurred 5 months prior to hospitalisation. In April 2015 he was hospitalised because of left shoulder synovitis and treated with clindamycin. Neurological examination revealed tenderness, paravertebral muscle spasm and restricted spinal range of movement of low thoracic spine and lumbar spine. After performing MRI of spine based on clinical, laboratory and radiological evaluations Th11-Th12 spondylodiscitis was diagnosed. Patient was transferred to the Department of Infectious Diseases and Neuroinfections, where treatment with ceftriaxone and ciprofloxacin was started. The patient gradually improved and was discharged home with recommendation of continuation treatment on an outpatient basis. In March 2016 patient was readmitted to the hospital complaining of relapse of severe low back pain. Laboratory evaluation showed elevated C-reactive protein level and leukocytosis. During hospitalization right pleural empyema and deep vein thrombosis were observed. Videothoracoscopy and drainage were performed. Bronchoalveolar lavage and spine biopsy results were unremarkable. The patient's state was deteriorating and he developed sepsis. Blood and pleural effusion samples were collected from the patient and *S. haemolyticus* was isolated. The patient recovered following vancomycin, meropenem and levofloxacin treatment. In June 2016 PET MRI scan was performed and demonstrated late phase of spondylodiscitis. Due to insufficient effectiveness of standard conservative treatment the patient was qualified to adjuvant hyperbaric oxygen therapy. After treatment completion, the patient made recovery to good overall condition. To present time no recurrence of spondylodiscitis was seen in control MRI.

**Conclusions.** Diagnosis of spondylodiscitis can be difficult, because subjective symptoms and physical findings are often inconclusive. At present, MR provides the most comprehensive means for assessment of vertebral disorders. Early diagnosis is very important because the delay in diagnosis increases the mortality and morbidity rates. Application of novel imaging techniques can improve the accuracy of the diagnosis and aid in the management of the disease.