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AB1124 PREDICTIVE VALUE OF MRI FOR CT-GUIDED POSITIVE BIOPSY IN SUSPECTED INFECTIOUS SPONDYLODISCITIS

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Background: Spondylodiscitis is a potentially life-threatening infection burdened by high morbidity rates. MRI remains the key examination in the diagnosis of infectious spondylodiscitis. The microbiological diagnosis is the main predictive factor for successful treatment.

Objectives: To evaluate the MRI characteristics associated with the detection of microbial pathogens by computed tomography (CT) guided biopsy in case of suspicion of infectious spondylodiscitis.

Methods: Retrospective study including all patients hospitalized in our department between 1999 and 2019 and who underwent MRI and CT-guided biopsy for suspicion of septic spondylodiscitis. The diagnosis was based on clinical, biological, radiological and bacteriological data. We divided the patients into two groups: patients with a non-contributory CT guided biopsy (group 1) and patients with a contributory biopsy (Group 2).

Results: We included 82 patients including 37 women and 45 men with a mean age of 56 years old [16 - 86]. The median delay of consultation was 3 months. Inflammatory back pain was reported in 78% of cases. Neurologic deficiency was noticed in 19.5% of cases. The lumbar spine was involved more than 50% of cases. Spinal MRI was performed to all patients and showed paravertebral abscess in 64.6%, epiduritis in 62.1%, intra-discal abscess in 3.6%, spinal cord compression 10.9%, and vertebral osteolysis in 6.09% of cases. The causative microorganism was mycobacterium tuberculosis in 53.6%, brucella in 24.3%, and pyogenic germs in 15.8% of cases. Disco vertebral biopsy was performed in 55 patients and was contributory in 45.4% of cases.

The presence of spinal cord compression, intra-discal abscess and vertebral osteolysis was more frequent in group 2, but with no statistically significant difference ($p = 0.65$, 1 and 0.58 ; respectively). In addition, there was no significant difference in the presence of paravertebral abscess and epiduritis ($p = 0.41$ and 0.53 ; respectively).

Conclusion: Spondylodiscitis is an emergency which must be diagnosed on time to avoid life threatening complications, neurological sequelae and spinal deformities.

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AB1125

LESS SEVERE SYNOVITIS IN PATIENTS WITH KNEE OSTEOARTHRITIS IS ASSOCIATED WITH HIGHER SELF-REPORTED PAIN INTENSITY 12 MONTHS AFTER TOTAL KNEE ARTHROPLASTY – AN EXPLORATORY COHORT STUDY

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Background: Synovitis is a pain generator in patients with osteoarthritis and associated with upregulation of pro-inflammatory cytokines, which have been found to lead to pain sensitivity and worse self-reported pain (1).

Objectives: This study aimed to investigate the association between pre- and perioperative synovitis from imaging and histology and self-reported pain 12 months after total knee arthroplasty (TKA).

Methods: Preoperative synovitis was assessed from MRI data of the knee by 11 point synovitis score a.m Guerazzi (2) using contrast enhanced MRI (CE-synovitis) and heuristic time intensity curve analysis of the dynamic contrast enhanced MRI (DCE-MRI) data using the DYNAMIKA[®] software (Image Analysis group, London) providing Dynamic Enhanced MR Quantification (DEMRIQ) Indices (3). Perioperative synovitis was also assessed from biopsies of the synovium in 6 predefined places graded histologically a.m Krenn (4). Worst pain within the last 24-hours (visual analog scale, VAS, 0-100) was assessed before and 12 months after TKA. Patients were divided into a low-pain (VAS≤30) and a high-pain (VAS>30) group based on 12-months postoperative VAS.

Results: Twenty-six patients had full pre- and postoperative data and were analysed. The high-pain group had significantly lower CE-synovitis ($P=0.03$), DCE-MRI inflammation indices (DEMRIQ-inflammation) ($P<0.03$) and a trend towards lower histologically assessed synovitis grades ($P=0.077$) compared to the low-pain group at baseline. Preoperative synovitis scores were also inversely correlated with pain 12-months after TKA, CE-synovitis ($R = -0.455$, $P = 0.022$) and DCE-MRI inflammation ($R = -0.528$, $P = 0.007$), indicating that more severe preoperative synovitis is associated with less severe pain at 12-months.

Conclusion: Higher preoperative synovitis scores are associated with less postoperative pain 12-months after TKA. Further, correlation analysis revealed that less severe preoperative synovitis was associated with worse pain 12-months after TKA, suggesting that CE and DCE-MRI synovitis quantification could be used as imaging markers for prediction of good surgical outcomes.

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