SAT0637

RADIOGRAPHIC AND MRI DETECTED SACROILIITIS IS MORE OFTEN OBSERVED IN PATIENTS WITH LUMBOSACRAL TRANSITIONAL VERTEBRA IN THE DESIR COHORT

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Background: Lumbosacral transitional vertebra (LSTV) is a congenital anomaly of the lumbosacral transition reported in 16% to 36% of the general population. One study reported low clinical relevance of LSTV in the early diagnosis of axial spondyloarthritis (axSpA), but data remains scarce.

Objectives: Our objectives were to evaluate the association of LSTV with sacroiliitis on conventional radiographs (CR) and magnetic resonance imaging (MRI) in a population with inflammatory back pain (IBP) suspected of axSpA.

Methods: Baseline pelvic and lumbar CR of DESIR cohort patients (18–50 years, IBP ≥ 3 months but < 3 years and suspicion of axSpA) were analysed by readers blinded to clinical and other radiologic information. Baseline sacroiliac joint MRI had been read for sacroiliitis according to the ASAS definition. Radiographic sacroiliitis was defined according to the modified New York classification (mNYC). Unilateral sacroiliitis was defined as at least grade 2 according to the mNYC. LSTV were defined on radiographs, according to Castellvi classification: 0 normal; 1 enlarged transverse processes (a=unilateral, b=bilateral); 2 pseudo-articulation with the sacral bone (a=unilateral, b=bilateral); 3 fusion with the sacral bone (a=unilateral, b=bilateral); 4 pseudo-articulation on one side and fusion on the other. Imaging data collected at inclusion were compared in patients with LSTV versus patients without using Chi-square test or exact Fischer's test when appropriate.

Results: 688 patients with available CR enabling LSTV analysis were studied, 47% were men, mean age was 33 years, 64% fulfilled ASAS criteria. Among the 688 patients 29.1% presented LSTV. Number and percentages of patients with different classes of LSTV are presented in Table I. Patients with LSTV had more often sacroiliitis on CR than patients without, respectively 27% and 19% (p=0.013). Patients with LSTV had more often sacroiliitis on MRI (figure 1) than patients without, respectively 39% and 29% (p=0.019). Presence of fusion on the right transverse process was associated with both right (p=0.001) and left (p=0.001) sacroiliitis on CR. Presence of fusion on the left transverse process was associated with sacroiliitis in CR on both right (p=0.006) and left (p=0.001) sides.

Table I: Prevalence of LSTV in the DESIR cohort (for stage 4, laterality is for the fusion)

Castellvi	Laterality	Number (%)
I a	Right	26 (3.8)
(Mega-apophysis)	Left	28 (4.1)
I b		76 (11.0)
II a	Right	13 (1.9)
(New articulation)	Left	7 (1.0)
II b		12 (1.7)
III a	Right	3 (0.4)
(Fusion)	Left	4 (0.6)
III b		21 (3.0)
IV	Right	3 (0.4)
(New articulation and fusion)	Left	7 (1.0)

Abstract SAT0637 – Figure 1. A case of LSTV (class 4 from Castellvi classification) associated to CR (A) and MRI. T1 weighted sequence is shown in B and STIR weighted sequence in C and D.

Conclusions: LSTV is observed in 29.1% of patients from the DESIR cohort, as reported in the literature and is associated with sacroiliitis on conventional radiography and MRI. Further study is mandatory to understand if this is based on mechanical stress or AxSpA and to assess the potential bias of LSTV in axSpA diagnosis.

Disclosure of Interest: None declared

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SAT0638

ULTRASONOGRAPHY THE PREVALENCE OF MONOSODIUM URATE CRYSTAL DEPOSITION IN PATIENTS WITH CALCIUM PYROPHOSPHATE DEPOSITION DISEASE: ASSOCIATION WITH LABORATORY, RADIOGRAPHIC PARAMETERS AND MICROSCOPY OF SYNOVIAL FLUID

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Background: An association between gout and chondrocalcinosis is well known. Our objectives were to first, to determine by ultrasonography (US) the prevalence of monosodium urate (MSU) crystal deposition in patients (pts) with calcium pyrophosphate deposition disease (CPPD) and second, to investigate the relationship between serum urate (SU), synovial fluid (SF) examination, radiographic and US findings.

Methods: Eighty five pts (52% – men) with CPPD disease [McCarthy criteria; median age 58.5 (range 50.5–65) years] were enrolled. SU levels were obtained during the follow-up period. US examination (Logiq 9, GE, 9 MHz probe) was performed by one sonographer, blind to clinical and laboratory data. Hyaline cartilages of the knees, II-V metacarpophalangeal and I metatarsophalangeal joints were evaluated for the “double contour” (DC) sign as evidence of MSU crystal deposition.^{1,2} SF analyses under polarised microscopy were obtained at each time of US assessment. X-ray of knee joints was performed in all pts. We assessed joint space narrowing, osteophytes, presence of osteosclerosis and cyst in the tibiofemoral (TF) and patellofemoral (PF) compartments, radiographic evidence of knee osteoarthritis (OA, Kellgren and Lawrence (KL) criteria grade ≥ 2 in the medial and/or lateral TF compartment).

Results: 44% (38/85) pts had PFOA, 19% (16/85) had TFOA and combined PFOA and TFOA in 10.5% (9/85). Thirty-five of 85 (41%) pts had a SU level of > 6 mg/dl [7.9 (7.7–8.3) mg/dl]. Among them 60% (21/35) were performed US assessment of the joints. The prevalence of the DC sign was found in at least one articular site in 17 of 21 (81%) cases. SU levels were positively correlated with presence of the DC sign in joints (Spearman's $r=0.532$, $p<0.05$), PFOA ($r=0.291$, $p<0.05$). The MSU crystals from SF aspirates were received in 4 of 17 (23.5%) cases.

Conclusions: This study confirmed that the US DC sign in joints significantly correlate with a SU level and may be of use as a non-invasive tool in reflecting changes of uricemia in pts with crystal-associated synovitis. Hyperuricemia in pts with CPPD was associated with PFOA disease pattern.

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SAT0639

INTEROBSERVER AGREEMENT OF THE OMERACT ULTRASONOGRAPHIC CRITERIA FOR THE DIAGNOSIS OF CALCIUM PYROPHOSPHATE DEPOSITION DISEASE AT THE WRIST, AMONG PANEL OF RADIOLOGISTS AND RHEUMATOLOGISTS

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Background: The OMERACT ultrasound (US) task force subdivision “US in CPPD” has created definitions for US identification of crystal deposits in joints and