group. The SPARCC scores in TNF-i group also decreased significantly (Figure1, $P<0.01$). There was no significant progress in fat metaplaisa, bone erosions, sclerosis and ankylosis during the follow-up period ($P>0.05$). Even though the inflammatory indexes and clinical evaluation of non-TNF-i group did not improved remarkably, SPARCC score were significantly reduced at 4–6 months and 1–2 years ($P<0.05$).
Conclusions: TNF-i could reduce clinical and imaging inflammatory degree. Prolonged the interval of TNF-i treatment could maintain low disease activity and improve bone marrow edema, whereas fat metaplasia, bone erosion, sclerosis and ankylosis were not exacerbated.
Disclosure of Interest: None declared
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THU0400 RISK FACTORS OF SAGITTAL TRANSLATION AFTER PEDICLE SUBTRACTION OSTEOTOMY ON ANKYLOSING SPONDYLITIS

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Background: Few studies on sagittal translation and its risk factors after pedicle subtraction osteotomy (PSO) in ankylosing spondylitis (AS) patients have been conducted. There is also no study on overall evaluation of radiologic parameters as the candidate of its risk factor.
Objectives: The aim of this study was to report the cases of sagittal translation which developed after PSO in AS patients with kyphotic deformity and to analyze its risk factors
Methods: The subjects of this study were 53 AS patients (58 cases) who underwent PSO to correct their kyphotic deformity between March 2006 and August 2016. The 53 subjects consisted of 45 males and 8 females. Their mean age was 39.3 12 Tit'>7.9 (range: 29–67). After osteotomy, the patient was examined for the presence of sagittal translation in the correction site through intraoperative radiograph. The low modified Stoke AS spine score (mSASSS) was measured before the surgery. The vertebral parameters such as lumbar lordosis angle, thoracic kyphotic angle, and sagittal vertical axis, and the pelvic parameters such as pelvic incidence, pelvic tilt, and sacral slope were also measured before and after the surgery.
The subjects were grouped according to the presence and absence of sagittal translation, and their radiologic parameters were compared. In addition, the correlation between sagittal translation and each parameter was analyzed. Complications that developed during and after the surgery were also analyzed.
Results: Sagittal translation developed in 16 subjects (30%) or 17 cases (29.3%). The mean lumbar lordosis angle and the mean sagittal vertical axis of both the sagittal translation (ST) group and the non-sagittal translation (Non-ST) group were successfully corrected (p=0.000, respectively). A significant difference in preoperative mean sacral slope was observed between the groups (p=0.045). The ST group showed a significantly higher mSASSS (48.1±20.7) than the Non-ST group (36.8±16.2) (p=0.002). In the multivariate regression analysis, sagittal translation was positively correlated with mSASSS (odds ratio 1.34, P=0.002) and the preoperative sacral slope (odds ratio 1.46, P=0.009), and negatively correlated with the difference between preoperative and postoperative thoracic kyphotic angle (odds ratio 0.68, P=0.01). Both groups showed no finding of permanent neurologic complication after the surgery.
Conclusions: The incidence of sagittal translation after pedicle subtraction osteotomy was closely related with the severity of ankyloses in AS patients. Therefore, when pedicle subtraction osteotomy is performed for AS patients with severe ankyloses and high sacral slope, it is required that surgeon consider sagittal translation which could induce neurologic complication.
Disclosure of Interest: None declared
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Crystal diseases, metabolic bone diseases and bone diseases other than osteoporosis

THU0401 ULTRASOUND EVALUATION IN FOLLOW-UP OF URATE-LOWERING THERAPY IN GOUTY PATIENTS: THE USEFUL STUDY

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Background: Ultrasonography (US) has demonstrated its ability to detect urate deposition in gouty patients. Some US features have been suggested to be specific such as tophus and the double contour (DC) sign. In contrast to the usefulness of US for diagnosis, data are lacking on its role in follow-up of gout deposition after initiation of urate-lowering therapy (ULT).
Objectives: We aimed to determine the ability of US to show disappearance of urate deposits in gouty patients requiring ULT.
Methods: We performed a 6-month multicentre prospective study. To be included in the study, patients needed to have: i) a proven gout (identification of monosodic urate crystal in synovial fluid analysis or tophus aspiration), ii) presence of US features of gout (tophus and/or DC sign) at knee and/or first metatarsophalangeal joints (MTP1s). Serum uric-acid (SUA) level was assessed at baseline, M3 and M6. US evaluations were performed at baseline, M3 and M6 after starting ULT, by one local rheumatologist, blinded to SUA levels and clinical data. The primary outcome was the decrease (absolute value and percentage of decrease) of US tophus after 6 months of ULT, according to the final SUA levels. The secondary outcome was the mean percentage of joint sites with DC sign disappearance. Three stages of SUA levels were defined (high SUA levels: >360 μmol/l, low SUA: 300 -360 μmol/l, very low SUA: <300 μmol/l.
Results: A total of 79 gouty patients (mean ± SD age 61.8±14 years, 91% of males) were included. The mean disease duration was 6.3±6.1 years. Tophi were found at clinical exam in 29% of patients. Baseline SUA levels were 530±97 μmol/l. At least one US tophus and DC sign were found in 74 (93.7%) and 68 (86.1%) of patients, respectively. Allopurinol and febuxostat was started in 26 (33%) and 53 (67%) patients, respectively. A total of 67 patients were completers at 6 months. Among those M6 completers, 39 and 18 patients achieved a very low and low SUA levels, respectively. The 10 remaining patients maintained high SUA levels. Comparison of US features of gout modifications between the 3 groups of final SUA levels revealed a higher decrease of US tophus size and higher proportion of DC sign dissolution among patients with lowest SUA levels (Table 1). Additionally, final M6 SUA levels was associated with: decrease size of tophus (r=0.5093 [0.3012; 0.6711], P<0.0001), percentage of decrease of the tophus size (r=0.5352 [0.3332; 0.6902], P<0.0001) and inversely correlated with the proportion of DC sign dissolution (r=-0.624 [-0.763; -0.4298]).

Table 1. Modifications of US features of gout after 6 months of ULT

M6 SUA levels, mmol/l	SUA <300 N=39	SUA 300–360 N=18	SUA >360 N=10	P*
Delta size tophus, mean ± SD mm	-6.5±4.1	-4.4±3.0	-0.0±1.5	P=0.00046
% of decrease of tophus	-56.6±32.9	-31.5±24.3	-10.3±17.2	P=0.00028
% of joint site with DC sign dissolution	80.8	59.9	1.1	P<0.0001

*Kruskal-Wallis test. DC: double contour; SD: standard deviation; SUA: serum uric acid levels.

Conclusions: US is able to detect decrease or disappearance of US urate deposits after ULT. Additionally, the decrease of US deposits is strongly correlated with lowest SUA levels. These data suggest that US could be useful for ULT management in gouty patients.
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THU0402 ULTRASONOGRAPHY AND DUAL-ENERGY CT (DECT) DO NOT PROVIDE THE SAME QUANTIFICATION OF URATE DEPOSITION IN GOUT: RESULTS FROM A CROSS-SECTIONAL STUDY

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Background: Gout is due to monosodium urate (MSU) deposition in joints and soft tissues. Ultrasonography (US) and dual-energy CT (DECT) have been shown to be effective in detecting MSU deposits. Both techniques can examine tophi size. DECT is effective to identify soft-tissue MSU deposits and US can show joint deposition with the double contour (DC) sign. It is unknown if these two techniques provide the same quantification of the extent of urate deposition on a given patient.
Objectives: The main objective of this study is to compare the tophus size measured by US and by DECT. The secondary objective is to evaluate the correlation between the prevalence of the US DC sign and the global volume of urate deposits measured by DECT.
Methods: This prospective cross-sectional study included patients fulfilling the 2015 ACR/EUALR criteria for gout. Patients underwent US and DECT examinations of their knees and feet. The largest US tophi was selected as the index tophus. US examination of the DC sign was performed on the femoro-patellar joints, talo-crural joints and 1st metatarsophalangeal joints. Total volume of urate deposits of knees and feet was measured by DECT. The primary endpoint was the intra-class correlation coefficient (ICC) of the volume of the index tophus measured by US and DECT [CI 95%].
Results: A total of 64 patients were included in the study, of which 35 patients presented with at least one US tophus. Patients were in average 64.5±16.3 years old, 84.4% were male, had an average ACR/EULAR score of 13.6±2.5, and disease duration was 12±14.7 years. Overall, 44 patients (68.8%) were currently taking urate lowering therapy and 22 patients (34.4%) had clinical tophi. Out of the 35 US selected largest tophi, 6 tophi were not seen in DECT. Of the tophi identified with both techniques, 21 were localized in the feet and 8 in the knees. The ICC of the tophus volume assessment by US and DECT was 0.45 [0.12–0.69]. The average volume of the largest US tophi was 2.7±6.5 cm^3 and 1.5±3.3cm^3 when measured by DECT. If the index tophus was localized in the knee, the ICC was 0.36 [0–0.82] and was 0.68 [0.37–0.86] if the tophus was in