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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.5533

AB0911

REFRACTORY LOW BACK PAIN AND LUMBAR CT-GUIDED STEROID INFILTRATION. STUDY OF 582 PROCEDURES FROM THE SAME CENTER

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Background: Mechanical low back pain which is refractory to analgesic and rehabilitative treatment is an important cause of disability. The primary objective of corticosteroid (CS) lumbar infiltration is to accelerate the recovery process and to avoid surgery. However, its use is not without controversy.

Objectives: To review the indications, efficacy and complications of lumbar computed tomography (CT)-guided CS infiltration.

Methods: Retrospective study (January 2012 - April 2018) of lumbar CT-guided CS infiltrations performed in a single center. The epidemiological variables, underlying pathologies, approach of injection, used CS (dexamethasone during the whole period and triamcinolone until February 2015), efficacy after 1 and after 3 months and complications were registered. In addition, a comparative study of the efficacy according to indication, type of CS and approach of injection was performed.

Frequencies and percentages were used in qualitative variables, mean $\pm$ SD in quantitative and for the comparison between groups Chi2 test or Fisher test was used in categorical variables and Student T test or U of Mann-Whitney in quantitative. Statistical analysis was performed with IBM SPSS v.23.

Results: 582 procedures were performed in 445 patients (1 infiltration in 445 patients, 2 in 106, 3 in 23, 4 in 7 and 5 in 1). The mean age $\pm$ SD was 58.6 $\pm$ 14.8 years with a male/female ratio of 224/221. Traumatology was the service with highest demand (88.8%) followed by rheumatology (4.8%). The indications were disc herniation (43.1%), lumbar spinal stenosis (36.4%), postoperative fibrosis (14.8%), spondyloarthritis (2.7%) and other [lithesis, synovial cyst and facet joint syndrome] (2.8%). Posterior epidural access was performed in 27.1% of the procedures, foraminal in 17.9% and lateral recess in 55%. The used CS were dexamethasone (66.3%) and triamcinolone (33.7%). In 86% of patients the oral analgesic treatment had been ineffective.

Improvement was observed in 68% of patients at the first month (table) regardless of the indication, approach of injection and CS used and in 63.2% at 3 months.

Only 124 patients (21.3%) required surgery due to the persistence of pain, mostly within the first year after infiltration (66.9%).

Clinical efficacy showed no statistically significant differences regarding to the indication of the procedure. On the other hand, we observed a significantly higher improvement of the pain through the foraminal and lateral recess than through the epidural at 3 months ($p = 0.002$). Regarding the CS used, the improvement was significantly greater with triamcinolone compared to dexamethasone in the first and third months ($p < 0.001$). Concerning safety, there were 16 cases (2.7%) of local complications (5 punctures of the thecal sac, 4 extravasations of the contrast and 7 transient pain in lower extremities) and 5 (0.9%) systemic complications (3 allergic reactions and 2 syncope due to low blood pressure), without clinical relevance and they were not associated with the indication, approach of injection and CS used.

Conclusion: In our series disc herniation, lumbar stenosis and postoperative fibrosis were the most common indications. Improvement was observed in 68% and in 63.2% of the patients in the first and third months respectively.

TABLE. Clinical evolution of pain at the first month according to indication, approach of injection and used steroid.

INDICATION	Total response, n (%)	Partial response, n (%)	No response, n (%)	Worsening, n (%)	TOTAL, n (%)
-Disc herniation	12 (4.8%)	167 (66.5%)	66 (26.3%)	6 (2.4%)	251 (43.1%)
-Lumbar spinal stenosis	5 (2.3%)	131 (61.8%)	75 (35.4%)	1 (0.5%)	212 (36.4%)
-Postoperative fibrosis	1 (1.2%)	56 (65.1%)	29 (33.7%)	0 (0%)	86 (14.8%)
-Spondyloarthritis	1 (6.2%)	11 (68.8%)	4 (25%)	0 (0%)	16 (2.8%)
-Other (lithesis, synovial cyst and facet joint syndrome)	1 (5.9%)	11 (64.7%)	5 (29.4%)	0 (0%)	17 (2.9%)
APPROACH					
-Lateral recess	14 (4.4%)	207 (64.7%)	94 (29.4%)	5 (1.5%)	320 (55%)
-Epidural	3 (1.9%)	94 (59.5%)	60 (38%)	1 (0.6%)	158 (27.1%)
-Foraminal	3 (2.9%)	75 (72.1%)	25 (24%)	1 (1%)	104 (17.9%)
STERIOD					
-Dexamethasone	8 (2.1%)	234 (60.6%)	140 (36.3%)	4 (1%)	386 (66.3%)
-Triamcinolone	12 (6.1%)	142 (72.5%)	39 (19.9%)	3 (1.5%)	196 (33.7%)
TOTAL n=582	20 (3.4%)	376 (64.6%)	179 (30.8%)	7 (1.2%)	582 (100%)

Figure 1

Only 21% required surgery. Triamcinolone (although its use is currently discouraged because it is a particulate CS), foraminal infiltration and lateral recess proved to be more effective for pain control.

In this study, lumbar CT-guided CS infiltration in patients with refractory low back pain is an accessible, minimally invasive, safe and effective procedure in long term.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.1990

AB0912

EXTRACORPOREAL SHOCKWAVE VERSUS MUSCULOSKELETAL MESOTHERAPY FOR ACHILLES TENDINOPATHY IN ATHLETES

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Background: Achilles tendinopathy (AT) is considered as one of the common tendon pathologies, which occurs mainly in athletes. Different conservative treatment options have been introduced and used for symptoms relief of AT but with short-term effect.1 Extracorporeal shockwave treatment (ESWT) provides longer effects and could be used in cases fail to respond to conservative treatments.2 Mesotherapy is widely practiced in sports medicine as multiple injections, often of anti-inflammatory medications into the subcutaneous fat overlying a region of musculoskeletal pain. The effect appears unclear but may be due to localized tissue uptake of anti-inflammatory medication which may provide symptomatic relief especially in insertional Achilles tendinopathy 3

Objectives: In this study, we aimed to evaluate the effect of extracorporeal shockwave treatment

(ESWT) and mesotherapy on chronic Achilles tendinopathy in athletes

Methods: 40 patients with chronic AT were diagnosed clinically & using high resolution ultrasound (US) according to the Eular guide lines and randomly allocated in two groups, first receive ESWT, other group underwent mesotherapy (MT) one session once a week for 4 weeks to the 2 groups. Pain, ankle-hindfoot scale of the American Orthopedic Foot and Ankle Society (AOFAS) 4 & US were recorded at baseline, 4 and 12 weeks after intervention

Results: Both groups improved during the treatment and follow-up period. The mean VAS score decreased from 7.55 to 3 in the ESWT group and from 7.70 to 4.30 in MT group. There was no significant difference in terms of AOFAS and VAS scores between both groups at 4 weeks follow up while Mean AOFAS & VAS scores were significantly different between ESWT and MT groups at 12 weeks of follow-up ($P = 0.013$) ($P = 0.47$). US assessment significantly improved after 12 weeks in ESWT group as regards tendon thickness, calcifications (figure 1,2) and doppler signal.

Conclusion: ESWT showed improvement of pain and inflammation of AT than MT injections which was documented by the decreased VAS, increased AOFAS scores as well as US improved findings shortly after the treatment as well as on late follow up.

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Fig (1) Ultrasound Transverse scan over left TA of male 25 squash player shows hyperechoic dot of calcification inside the tendon with acoustic shadowing before treatment.

Fig(2) same patient, after 3 months of treatment with ESWT shows disappearance of calcification

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.4818

AB0913 THE ROLE OF BISPHOSPHONATES IN THE MANAGEMENT OF SPONTANEOUS OSTEONECROSIS OF THE KNEE (SONK)

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Background: Spontaneous osteonecrosis of the knee (SONK) was first described by Ahlbäck, Bauer and Böhner in 1968 when they identified 39 patients with radiolucent lesions of subchondral bone in the medial femoral condyle which represented a manifestation of osteonecrosis. The aetiology and pathogenesis of SONK remains unclear with possibilities including microvascular compromise, reduced bone mineral density, and mechanical disruption within the knee. The treatment compromises of conservative, medical and surgical options depending on the severity of osteonecrosis identified on imaging. Lai *et al* (2005) demonstrated the beneficial effect of alendronate in the prevention of early collapse of the femoral head in patients with nontraumatic osteonecrosis. However, the role of bisphosphonates in the treatment of SONK is debated and the evidence is based upon a few studies.

Objectives: To assess the evidence for the use of bisphosphonates in SONK.

Methods: A literature search was conducted to identify studies reporting the effect of bisphosphonates in the treatment of SONK and the usefulness and validity of their conclusions was subsequently assessed.

Results: We have identified one randomised controlled trial and four case series investigating the use of a bisphosphate on the clinical and radiological outcome in patients with osteonecrosis of the knee. All four case series showed improvements with bisphosphonates on patient visual analogue scale (VAS) and radiological outcome. However, the sole randomised controlled trial reported that bisphosphonates had no additional benefit over conservative measures and anti-inflammatory medications after 24 or 48 weeks both functionally and radiographically. These studies had a small number of participants and the size of the osteonecrotic lesion was either small, which traditionally is managed conservatively, or not interpreted in the context of the results.

Conclusion: The role of bisphosphonates in the treatment of SONK remains unclear. Further randomised controlled trials would be beneficial in these patients with emphasis on the symptom duration and the size of the osteonecrotic lesion.

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Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.5117

AB0914 EFFECT OF VITAMIN D SERUM CONCENTRATION ON ARTRALGIA INDUCED BY ADJUVANT THERAPY WITH AROMATASE INHIBITORS IN NON METASTATIC BREAST CANCERS SURVIVORS

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Background: Hand arthralgia is often reported by breast cancer patients treated with adjuvant hormonal therapy. Aromatase inhibitors (AIs) improve survival in postmenopausal women with hormone-sensitive breast cancer, but can cause joint pain and stiffness (2). Low concentration of vitamin D in adults can cause musculoskeletal pain and joint discomfort (1). No data are available to date, on serum concentrations of (25-hydroxyvitamin D) [25 (OH) D₃] vitamin D in AI-treated patients and possible relationship with arthralgia.

Objectives: To evaluate possible correlation between different 25 (OH) D₃ serum concentrations and hand arthralgia in patients with breast cancer treated with AIs.

Methods: All patients that during the AIs therapy develop arthralgia referred to the rheumatologist; they reported the pain following the VAS (visual analogic scale) and contemporary performed a sample blood for dosage of vitamin D as well as biomarkers for inflammation and autoimmunity to exclude concomitant immune/inflammatory rheumatic musculoskeletal causes.

Results: In a group of 63 women taking AIs (mean age 62.3±9.8years; disease duration from first assumption of AIS 10.6±3.2 months) 81% reported hand arthralgia and stiffness within the first year of follow-up; the most prevalent site of pain localization was bilateral hands (85%). Symptom was associated with minimal increase of serum parameters of inflammation (the mean value of C-reactive protein was 7.1±3.0 mg/L (normal value 0-5) but negative autoimmune profile (negative rheumatoid factors and anticitrullinated protein antibodies). The mean 25(OH)D₃ serum concentration was 18.4± 8.5 ng/ml. Only 9% of women had an adequate (≥ 30 ng/ml) [25 (OH) D₃] vitamin D serum levels, 70% were insufficient (> 10 < 20 ng/mL), and 21% were severely deficient (< 10 ng/mL). 55% of patients started AIs after chemotherapy. From the group that received AIs after chemotherapy 77% patients with arthralgia were found during the first years of hormonal therapy, in the group that previously did not take chemotherapy 88% of patients referred arthralgia. There was any