AB1127

IS SHOULDER INVOLVEMENT IN CLINICALLY SUSPECT ARTHRALGIA AN EARLY FEATURE OF RHEUMATOID ARTHRITIS? - A LONGITUDINAL ULTRASOUND STUDY

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Background: Multiple studies have demonstrated that shoulder complaints are frequent in Rheumatoid arthritis (RA). Recently, it has been shown that shoulder involvement is predictive for RA development in patients with undifferentiated arthritis (UA) and its value is comparable to that of small joint involvement. The phase of clinically suspect arthralgia (CSA) precedes the phase of clinically apparent arthritis; in this phase subclinical tenosynovitis of the hands, is associated with the development of RA. Given the similarities in predictive values between the shoulder and small joints in UA, and the predictive value of tenosynovitis in CSA, we hypothesized that subclinical tenosynovitis of the bicep tendon is also associated with RA development. We examined the biceps tendon, since this is the only tendon of the shoulder that is enclosed by a synovial sheath as it passes through the bicipital groove.

Objectives: Therefore, the aim of this study is to examine the predictive value of tenosynovitis of the bicep tendon by ultrasound (US) on developing inflammatory arthritis (IA) in CSA-patients.

Methods: The SONAR (Sonographic evaluation of hands, shoulders and feet in patients presenting with inflammatory arthralgia to identify subclinical arthritis) is a multi-center observational cohort study in which patients were followed for the development of clinically apparent inflammatory arthritis (IA). Visits were done at baseline and 6 months thereafter. At baseline a US of both shoulders was made. 1-year follow-up data were used. IA was defined as having an arthritis verified by the treating physician. US abnormalities of (1) the biceps tendon, (2) the glenohumeral joint and (3) the subdeltoid bursa, were assessed for tenosynovitis, arthritis and bursitis. Reference values for tendon thickness and effusion of the bursa were determined according to Schmidt et al. (1)

Results: A total of 170 patients were included and underwent bilateral ultrasound (US) of the shoulder joint. Shoulder symptoms were infrequent (Table 1). After one year 37 patients developed IA (22%). ACPA positivity was associated with the development of IA (Table 1). As presented in Table 1, US abnormalities of the shoulder were found but none were associated with IA-development. In particular biceps tenosynovitis was not increased in the patients that developed IA.

Table 1. Baseline characteristics and ultrasound abnormalities at baseline in patients with CSA.

Baseline characteristics	All CSA-patients n=170	CSA-patients with IA (n=37)	CSA-patients without IA (n=133)	P value
Gender, female, n (%)	140 (82)	30 (81)	110 (83)	0.82
Age, years, mean (SD)	45 (12)	47 (12)	44 (12)	0.28
Symptom duration, weeks median (IQR)	30 (19-43)	37 (23-43)	28 (19-39)	0.14
TJC44, median (IQR)	5 (3-8)	5 (3-8)	5 (3-8)	0.81
Shoulder pain, n (%)	9 (5)	0 (0)	9 (6.8)	0.10
SCJ44, median (IQR)	0 (0-0)	0 (0-0)	0 (0-0)	-
ESR, median (IQR)	10 (5-21)	9 (5-22)	11 (5-21)	0.66
RF-positive, n (%)	46 (28)	12 (34)	34 (26)	0.33
ACPA-positive, n (%)	26 (16)	10 (29)	16 (12)	0.019
US abnormalities of the shoulder				
Any US abnormalities, n (%) (n=170)	50 (29)	8 (22)	42 (32)	0.24
Biceps tendon Tenosynovitis, n (%) (n=164)	19 (12)	5 (15)	14 (11)	0.48
Biceps tendon thickness, n (%) (n=164)	6 (4)	0 (0)	6 (5)	0.19
Subdeltoid bursa effusion, n (%) (n=159)	29 (18)	3 (9)	26 (21)	0.094
Effusion joint, n (%) (n=157)	0 (0)	0 (0)	0 (0)	-

Abbreviations: IA: Inflammatory Arthritis, TJC44: Tender Joint Count in 44 joints, SCJ44: Swollen Joint Count in 44 joints, ESR: Erythrocyte sedimentation rate, RF: Rheumatoid Factor, ACPA: Anti-citrullinated Protein Antibody

Conclusion: Subclinical tenosynovitis of the shoulder is not an early feature of RA in patients with CSA.

Reference:

- [1] Schmidt WA, Schmidt H, et al. *Standard reference values for musculoskeletal ultrasonography*. Ann Rheum Dis. 2004 Aug;63(8):988-94.

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AB1128

ULTRASOUND SYNOVITIS AND SQUEEZE TEST: IS THERE A RELATIONSHIP?

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Background: The squeeze test or the Gaenslen's test is an easy and rapid method to identify arthritis in metacarpophalangeal (MCP) and metatarsophalangeal (MTP) joints. It's characterized by tenderness upon lateral compression of MCP or MTP joints. This is a useful clinical exam for the early diagnosis of Rheumatoid Arthritis (RA).

Objectives: The aim of our study is to assess the real value of that test and its association with synovitis.

Methods: A prospective study including RA patients (2010 ACR/EULAR criteria) was conducted at the Rheumatology Department of Mongi Slim Hospital Tunis.

US examination was performed by an experimented rheumatologist blinded to clinical data using a machine type Esaote MyLab 60 with a linear probe of 6-18 MHz. MCP joints were assessed in dorsal longitudinal view, in mode B and Power Doppler.

Synovitis was defined and Flexor digitorum Tenosynovitis was defined according to OMERACT.

A p<0.05 was considered statistically significant.

Results: Forty-three cases of RA were included. The mean age was 58.92 years [27 - 81]. The sex ratio was 0.16. Among our patients, 46.5% of cases were receiving methotrexate with a mean dose of 15,875 mg / week [7.5 - 22.5]. Corticosteroids were used in 55.8% of our patients with a mean dose of 8.65 mg / day [2.5 - 30]. Moreover, 23.25% of the patients were on biologics.

The mean value of morning stiffness was 37 min [0 - 150], the mean value of the global assessment of the disease by the patient was 5/10 [1 - 8]. The Gaenslen's test was positive bilaterally in 25.6% of cases, in the right hand and in the left one in respectively 39.5% and 27.9% of the patients. Tenosynovitis of the flexors were found clinically in 11.6% case.

The mean CRP was 29.7 mg / L [0.2 - 275] and the mean ESR was 65 mm [3 - 120]. The mean value of DAS28 and DAS28_{CRP} were respectively 5.20 ± 1.43 [2.69 - 9.00] and 4.33 ± 1.43 [1.35 - 8.32]. Overall, 430 joints and 430 flexor tendons were assessed by Ultrasound. Ninety-one synovitis were detected with a mean of 2.56 synovitis in MCP per patient [0 - 10]. Flexor tenosynovitis was found in 53.5% of patients.

A statistically significant correlation was found between the squeeze test and presence of ultrasound synovitis of the MCP whatever the site of the synovitis; on the right side (r = 0.507; p < 10⁻³), or the left one (r = 0.607; p < 10⁻³) but no correlation between the clinically detected tenosynovitis and the ultrasound tenosynovitis (p = 0.364). We found a significant correlation between the Gleason test and ultrasound tenosynovitis on both side with r = 0.368 and p = 0.015 on the right hand and r = 0.441 and p = 0.003 on the left one.

Conclusion: The squeeze test seems to be a very useful and practical clinical examination to easily detect synovitis and aid in the early diagnosis of RA

Disclosure of Interests: None declared

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AB1129

PREVALENCE OF FINDINGS IN ROUTINE ABDOMINAL ULTRASOUND IN PATIENTS WITH CONNECTIVE TISSUE DISEASES AND THEIR IMPACT ON DISEASE MANAGEMENT

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Background: Patients with connective tissue diseases (CTD) are often screened for abdominal organ involvement with ultrasound.

Objectives: To analyse the prevalence of routine abdominal ultrasound findings in different CTD entities and their impact on therapeutic decisions.

Methods: Retrospective chart review of all in-patients from a tertiary rheumatological referral center with CTD diagnosis and abdominal ultrasound examination between January 1st 2006 and December 31st 2015. Descriptive statistics were used to describe patient characteristics and frequencies of ultrasound findings. To determine whether findings impacted therapeutic decisions, we analysed if they were discussed in the hospital discharge letter.

Table 1. Frequency of abdominal ultrasound findings in different CTD.

	All patients	SLE	Sjögren's syndrome		Systemic sclerosis			Myositis		UCTD	MCTD
			primary	second-dary	diffuse	limited	with myositis	PM	DM		
Number of patients (females)	1092 (956)	194 (172)	252 (236)	167 (156)	78 (63)	125 (116)	17 (11)	24 (11)	33 (24)	99 (81)	87 (72)
Frequency of findings (%)											
Gallbladder											
Concrements	8.2	6.7	10.7	7.2	10.3	-	5.9	16.7	12.1	6.1	5.7
Wall thickening	0.5	-	0.4	1.2	-	-	-	-	-	2.0	-
Status post cholecystectomy	14.4	8.8	17.9	20.4	14.1	17.6	5.9	25.0	3.0	14.1	5.7
Pancreas											
Pancreatic lipomatosis	14.3	10.8	11.1	25.1	15.4	12.0	23.5	25.0	15.2	14.1	3.4
Inhomogeneous parenchyma	1.9	2.6	1.6	-	-	0.8	-	4.2	6.1	3.0	4.6
Pancreatitis	0.2	0.5	-	0.6	-	-	-	-	-	-	-
Lesion/tumor	0.5	-	0.4	-	1.3	1.6	-	4.2	-	-	-
Kidneys											
Altered echogenicity	4.7	5.7	6.0	4.2	7.7	4.8	-	8.3	6.1	-	2.3
Hydronephrosis	2.2	1.5	2.4	1.2	6.4	3.2	-	8.3	3.0	-	1.1
Cyst	10.3	9.3	10.7	12.6	15.4	9.6	5.9	4.2	15.2	8.1	4.6
Concrements	2.5	2.1	2.8	3.0	3.8	2.4	5.9	4.2	-	1.0	2.3
Lesion/tumor	0.6	0.5	0.8	-	3.8	-	-	-	3.0	-	-

Abbreviations: SLE: systemic lupus erythematosus, PM: polymyositis, DM: dermatomyositis, UCTD: undifferentiated connective tissue disease, MCTD: mixed connective tissue disease. "-" signifies 0.0% (n=0).

Table 2. Frequency of abdominal ultrasound findings in different CTD.

	All patients	SLE	Sjögren's syndrome		Systemic sclerosis			Myositis		UCTD	MCTD
			primary	second-dary	diffuse	limited	with myositis	PM	DM		
Number of patients (females)	1092 (956)	194 (172)	252 (236)	167 (156)	78 (63)	125 (116)	17 (11)	24 (11)	33 (24)	99 (81)	87 (72)
Frequency of findings (%)											
Liver											
Hepatomegaly	8.1	9.8	9.1	5.4	12.8	5.6	11.8	12.5	-	4.0	11.5
Steatosis	26.8	23.7	23.8	36.5	32.1	24.8	29.4	41.7	24.2	26.3	18.4
Cirrhosis	0.5	-	0.4	0.6	-	3.2	-	-	-	-	-
Focal nodular hyperplasia	0.2	0.5	-	0.6	-	-	-	-	-	-	-
Dilated common hepatic duct	1.3	1.5	0.8	3.0	1.3	1.6	-	-	-	-	1.1
Suspected malignant tumor	0.5	-	0.4	-	1.3	-	-	-	3.0	2.0	-
Spleen											
Splenomegaly	15.2	24.7	12.7	9.6	16.7	13.6	17.6	25.0	9.1	10.1	18.4
Status post splenectomy	0.4	1.0	-	0.6	-	-	-	-	-	-	1.1
Other findings											
Pleural effusion	7.8	14.4	5.6	4.2	10.3	7.2	5.9	4.2	3.0	7.1	9.2
Ascites	2.2	4.1	0.4	0.6	6.4	3.2	-	4.2	-	1.0	2.3
Colitis	2.4	1.5	2.4	2.4	2.6	3.2	-	4.2	6.1	2.0	2.3
Lymphadenopathy	0.2	-	-	-	1.3	0.8	-	-	-	-	-

Abbreviations: SLE: systemic lupus erythematosus, PM: polymyositis, DM: dermatomyositis, UCTD: undifferentiated connective tissue disease, MCTD: mixed connective tissue disease. "-" signifies 0.0% (n=0).

Results: 1092 patients with a total of 1695 hospitalizations were analysed. Mean age was 55.1 years (range: 17-90 years, SD: 15.8), mean disease duration was 6.4 years (range: 0.0-52.8 years, SD: 9.1). 87.5 % were female.

Table 1 shows the frequency of findings per CTD entity. 48 out of all 1695 examinations were discussed in the hospital discharge letter. In 30 cases, the physician described the ultrasound results as pivotal for therapeutic decision-making.

Conclusion: Routinely performed abdominal ultrasound rarely yields disease specific findings which subsequently impact the therapeutic decision-making process.

Disclosure of Interests: None declared

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AB1130

LOCALIZATION OF MRI INFLAMMATORY LESIONS OF THE HAND IN SCLERODERMA AND RHEUMATOID ARTHRITIS - COMPARATIVE STUDY

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Background: Inflammatory lesions of hand are frequent clinical feature in rheumatoid arthritis (RA), with lower frequency in pts with systemic sclerosis (SSc), also. MR is useful method for detecting and quantification of inflammatory lesion of the hand (bone oedema, erosions, synovitis) in RA and SSc.

Objectives: The aim of the study was to compare MR hand feature in SSc (experimental) and RA (control group) and to detect the localisation of the highest OMERACT RAMRIS inflammatory score on the hand in pts with SSc and RA

Methods: 110 pts with SSc and 60 with RA were investigated (mean age 53y). All the pts underwent clinical examination, X ray and MR on the dominant hand and wrist. Contrast enhanced low field MRI of the wrist and MCP2-5 joints was performed to all the pts. MRI inflammatory changes (bone oedema, erosions, synovitis) were assessed and scored by OMERACT RAMRIS scoring system.

Results: Clinical examination confirmed synovitis in 17.1%, and 78% of patients with SSc using MR I (p < 0.001). In the SSc group, erosions (by MR method) was confirmed in 52 (63.4%), by radiography in 22 pts (27.5%), which is a significantly lower percentage (p < 0.001). In the control RA group, erosion was confirmed in 34 (97.1%) by MR method, and by radiography in 6 (17.1%), which is a statistically significant difference (p < 0.001). Mean values of total MR score of synovitis (2.69 ± 2.29: 4.37 ± 1.31), oedema (6.58 ± 10.89: 20.57 ± 10.23) and erosion (6.84 ± 7.43: 18.60 ± 5.01) on the wrist of the dominant hand were significantly higher in subjects with control RA than in those in the experimental SSc (p < 0.001). Mean values of total MR score of synovitis (3.15 ± 2.95: 5.26 ± 2.09), oedema (3.99 ± 9.82: 10.51 ± 7.90) and erosion (4.04 ± 4.76: 9.69 ± 4.27) on the MCP joints of the dominant hand were significantly higher in the control RA subjects (p < 0.001). The highest OMERACT RAMRIS synovitis score was on distal radioulnar (DRU joint) of hand in SSc and also in RA pts. The highest erosion score was found on capitate bone in SSc, but in lunate bone in RA pts. The highest bone oedema score was also found on capitate bone