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THU0621

VERY LOW PREVALENCE OF ULTRASOUND DETERMINED TENDON ABNORMALITIES IN HEALTHY SUBJECTS THROUGHOUT THE AGE RANGE: OMERACT ULTRASOUND MINIMAL DISEASE STUDY

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Background: Tenosynovitis (TS) is a common, often clinically undetectable finding in Rheumatoid Arthritis (RA). Recent data showed TS on ultrasound (US) has a role in predicting outcome in early disease and flare in clinical remission. However data is limited on US measured TS in healthy subjects (HS), none specifically encompassing the older age range when RA commonly presents.

Objectives: This OMERACT study aimed to determine prevalence of US measured tendon abnormalities in HS throughout the age range.

Methods: Adult HS without: joint pain (VAS <10/100), hand osteoarthritis (ACR criteria), or inflammatory arthritis were recruited in 23 international centres from Aug 2017-Dec 2018. MCP, PIP and wrist joints were clinically examined. Bilateral digit flexor (DF) 1-5 and extensor carpi ulnaris (ECU) tendons were scanned for tenosynovial hypertrophy (TSH) and power Doppler (PD) signal and graded (OMERACT US scoring system¹). A comparison cohort of DMARD-naïve patients with RA (ACR-EULAR 2010 and/or 1987 criteria) at presentation was taken from the Birmingham Early Arthritis (BEACON) inception cohort, who underwent identical tendon US assessment. They were grouped into ≤12 and > 12 weeks from symptom onset.

Results: Data from 899 HS and 144 RA patients were included.

	HS 18-39 y	HS 40-59 y	HS ≥60 y	RA ≤12	RA > 12	5 groups p value	RA ≤12 vs >12 p value
n	408	311	180	30	114		
Age, y (IQR)	29 (25-33)	49 (44-55)	68 (62-72)	58 (52-69)	53 (42-65)	<0.001	0.03
Female (%)	270 (66)	270 (83)	114 (62)	20 (67)	86 (75)	<0.001	0.2
DAS 28 CRP (IQR)	-	-	-	5.4 (4.2-6.1)	4.8 (4.1-5.7)	-	0.1
Tender joint* (IQR)	0	0	0	18 (10-23)	17 (11-29)	<0.001	0.9
Swollen joint* (IQR)	0	0	0	8 (3-18)	6 (3-9)	<0.001	0.1

DF 1-5 TSH	8 (0.2)	9 (0.3)	2 (0.1)	54 (18)	125 (11)	<0.001	0.06
gd ≥1 (%)							
DF 1-5 PD gd	3 (0.05)	2 (0.06)	0	49 (16)	85 (8)	<0.001	0.02
≥1 (%)							
ECU TSH gd	1 (0.1)	11 (1.8)	5 (1.4)	13 (22)	52 (23)	<0.001	0.8
≥1 (%)							
ECU PD gd	0	0	0	12 (20)	50 (22)	<0.001	0.7
≥1 (%)							

*RA had 66/68 joint count

Prevalence of TSH and particularly PD abnormalities in HS was very low at all ages, and was all grade 1 except in one individual ECU tendon. ECU TSH grade≥1 was more common than DF grade≥1 in the older HS groups, and less common in the 18-39 age group (p=0.011). TSH and PD of grade ≥1 were common in RA patients, with DF PD abnormalities more common in early disease (p=0.02).

Conclusion: Low prevalence of TSH or PD abnormalities in tendons of HS even in old age suggests US determined TS will be a robust tool in clinically managing RA.

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MRI OF THE CRANIO-CERVICAL JUNCTION IN RHEUMATOID ARTHRITIS – DEFINITION OF NORMAL AND PATHOLOGICAL FINDINGS

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Background: In rheumatoid arthritis (RA), disease involvement at the cervical spine is common and may lead to malposition of the dens axis, resulting in severe neurological impairment. To date, malalignment is mostly described by X-rays.

Objectives: The aim of this investigation was to systematically define osseous and ligamentous MRI-findings in cranio-cervical RA in comparison to a control group without the disease.

Methods: MRI datasets of patients with cranio-cervical RA were identified retrospectively from the institutional image database and matched regarding age and gender with control patients. All image datasets were systematically reviewed for: position and morphology of dens axis (including erosions and osteitis); width and angle of the cranio-cervical joints; length, angle and visibility of peridental ligaments; vascularization of peridental