

Documents

Kirchgesner, T.^a, Stoenoiu, M.^b, Michoux, N.^a, Libouton, X.^c, Houssiau, F.^b, Vande Berg, B.^a

Instability of the extensor digitorum tendons in Jaccoud arthropathy assessed by semi-dynamic MRI of the metacarpophalangeal joints

(2021) *Diagnostic and Interventional Imaging*, 102 (9), pp. 553-559.

DOI: 10.1016/j.diii.2021.03.005

^a Department of Medical Imaging, Musculoskeletal Imaging Unit, Cliniques Universitaires Saint-Luc, Université Catholique de Louvain, Institut de Recherche Expérimentale et Clinique (IREC), Brussels, 1200, Belgium

^b Department of Rheumatology, Cliniques Universitaires Saint-Luc, Université Catholique de Louvain, Institut de Recherche Expérimentale et Clinique (IREC), Brussels, 1200, Belgium

^c Department of Orthopedic Surgery, Cliniques Universitaires Saint-Luc, Université Catholique de Louvain, Institut de Recherche Expérimentale et Clinique (IREC), Brussels, 1200, Belgium

Abstract

Purpose: The purpose of this study was to test the hypothesis that Jaccoud arthropathy (JA) in patients with systemic lupus erythematosus (SLE) is associated with instability of the extensor digitorum (ED) tendons during flexion of the metacarpophalangeal (MCP) joints by comparing the position of the ED tendons between SLE patients with JA and control subjects on hand MRI obtained with flexed and extended MCP joints. **Materials and methods:** Thirty-two hands of SLE patients with JA (13 women and 3 men; mean age, 50.0 ± 12.2 [SD] years; age range: 26–68 years) and 24 hands of sex- and age-matched control subjects (20 women and 4 men; mean age, 50.1 ± 13.0 [SD] years; age range: 24–68 years) were included in the study. Axial spin echo T1-weighted MRI images of the second to fifth MCP joints in flexion and in extension were obtained. Two radiologists (R1 and R2) separately measured the amplitude and assessed the direction of the displacement of the ED tendons with respect to the midline at the level of each MCP joint. Statistical analysis included two-way ANOVA with random effects to assess differences in amplitude and Fisher–Freeman–Halton exact test to assess differences in direction with P-values < 0.0083 and < 0.0063 considered as statistically significant respectively. **Results:** Amplitude of the displacement of the ED tendons was statistically significantly greater in SLE patients with JA than in control subjects in flexion for both readers (median 58°, 95% confidence interval [CI]: 50°–65° vs. 20°, 95% CI: 16°–24°; P < 0.0001 for R1 and 54°, 95% CI: 47°–61° vs. 25°, 95% CI: 22°–28°; P < 0.0001 for R2) and in extension for one reader (17°, 95% CI: 15°–20° vs. 14°, 95% CI: 11°–16°; P = 0.0048 for R1 and 20°, 95% CI: 15°–25° vs. 16°, 95% CI: 12°–18°; P = 0.0292 for R2). Ulnar deviation of the ED tendons was statistically significantly more frequent in SLE patients with JA than in control subjects in flexion and in extension for both readers (P < 0.0001). **Conclusion:** JA is associated with instability of the ED tendons in patients with SLE best depicted when MCP joints are flexed. © 2021 Société française de radiologie

Author Keywords

Hand deformities, acquired; Lupus erythematosus, systemic; Magnetic resonance imaging; Tendon

Index Keywords

adult, age, aged, arthropathy, Article, clinical article, controlled study, correlation coefficient, female, human, image analysis, interrater reliability, jaccoud arthropathy, limb movement, male, metacarpophalangeal joint, nuclear magnetic resonance imaging, prospective study, radiologist, range of motion, sex, systemic lupus erythematosus, arthropathy, diagnostic imaging, metacarpophalangeal joint, middle aged, nuclear magnetic resonance imaging, systemic lupus erythematosus, tendon, young adult; Adult, Aged, Female, Humans, Joint Diseases, Lupus Erythematosus, Systemic, Magnetic Resonance Imaging, Male, Metacarpophalangeal Joint, Middle Aged, Tendons, Young Adult

Correspondence Address

Kirchgesner T.; Department of Medical Imaging, Belgium; email: thomas.kirchgesner@uclouvain.be

Publisher: Elsevier Masson s.r.l.

ISSN: 22115684

PubMed ID: 33903055

Language of Original Document: English

Abbreviated Source Title: Daign. Intervent. Imaging

2-s2.0-85106613304

Document Type: Article

Publication Stage: Final

Source: Scopus

ELSEVIER

Copyright © 2022 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

 RELX Group™