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بالرسالة صفحات
لم ترد بالأصل

**A STUDY ON POWER DOPPLER
ULTRASONOGRAPHY FOR ASSESSMENT OF
METACARPOPHALANGEAL JOINTS
SYNOVITIS IN PATIENTS WITH RHEUMATOID
ARTHRITIS**

Thesis

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In

Rheumatology & Rehabilitation

Presented by

Sherif Mohamed Gamal Metwalli

M.B, B. Ch

Supervised by

Prof.Dr.Samia Zaki Hassan

Professor of Rheumatology and Rehabilitation
Cairo University

Prof. Dr. Azza Hussien El Awar

Assistant professor of Rheumatology and Rehabilitation
Cairo University

Dr. Hatem Mohamed Said Al Azizi

Lecturer of Diagnostic radiology
Cairo University

*Cairo University
Faculty of Medicine
2003*

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ACAT

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ABSTRACT

Objectives: To assess the value of Power Doppler Ultrasonography (PDUS) in the detection of inflammatory activity in the metacarpophalangeal joints of patients with rheumatoid arthritis and to correlate the results with the clinical and laboratory parameters of the disease activity as well as with plain radiography.

Patients and methods:

Twenty –eight adult female patients with rheumatoid arthritis were assessed by full history taking, complete clinical examination, routine laboratory investigation, plain radiography of both hands and power Doppler Ultrasonography examination of the metacarpophalangeal joints from the 2nd to the 5th in each hand.

Results:

Results showed that out of 28 patients examined (224 examined MCPs) the following were found:

Increased vascularity was detected in (14.29 %) of patients and in (2.68 %) MCPs .

Pannus was detected in (71.43 %) of patients and in (26.79 %) of MCPs.

Erosions were detected in (42.86 %) of patients and in (14.29 %) of MCPs .

Effusion was detected in (17.86 %) of patients and in (8.04 %) of MCPs

Thickening of tendon sheath was detected in (21.43 %) of patients and in (6.25 %) of MCPs .

No abnormalities were detected by PDUS in the control group

- There was direct positive significant correlation between pannus and morning stiffness $r = 0.375$, $P = 0.049$ and between pannus and General health assessment $r = 0.431$, $P = 0.022$.
- There was direct positive significant correlation between effusion and number of swollen joints $r = 0.455$, $P = 0.015$.
- There was direct positive significant correlation between tendon sheath thickening and modified AIMS scale $r = 0.446$, $P = 0.017$.
- There was direct positive significant correlation between total score of sonographic finding and each of the following :

Number of swollen joints $r = 0.554$, $P = 0.002$.

General health assessment $r = 0.638$, $P = .0.0$.

Modified arthritis impact measurement scale (AIMS) $r = 0.452$, $P = 0.016$

Disease activity score (DAS) $r = 0.601$ $P = 0.001$

Modified larsen $r = 0.545$, $P = 0.003$

- Statistically significant inverse correlation was found between total score of sonographic findings and each of the following:

Right grip strength $r = -0.412$, $P = 0.03$.

Left grip strength $r = -0.541$, $P = 0.003$.

- There was no significant correlation between disease duration, Ritchie articular index (RAI), ESR, Hb and any of sonographic findings.

- By using chi-square method significant statistical relation was found between Pannus detected by PDUS and swelling detected clinically and

between erosions detected by PDUS and erosions in conventional radiograph .

Conclusion:

We conclude from our study that power Doppler ultrasonography is reliable for assessing inflammatory activity in MCP joints as detection of increased vascularity is helpful to differentiate between active and inactive Pannus, and that PDUS is better in detection of effusion and synovial thickening than clinical examination .Also PDUS is much better for detection of erosions than conventional radiography .We also conclude that using a total score in evaluating sonographic findings allows better correlation with clinical parameters of disease activity .

Keywords: Power Doppler Ultrasonography - Synovitis - Rheumatoid Arthritis

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