



Power Doppler Ultrasonography vs MRI in Evaluation of Rheumatoid Arthritis Wrist and Hand

Thesis

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وَقُلْ اَعْمَلُوا فَسَيَرَى اللّٰهُ
عَمَلَكُمْ وَرَسُولُهُ وَالْمُؤْمِنُونَ

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List of Abbreviations

| | |
|----------------------------|------------------------------------|
| BME | : Bone marrow edema |
| CMC | : Carpometacarpal joint |
| DIP | : Distal interphalangeal |
| DRUJ | : Distal radioulnar joint |
| EDL | : Extensor digitorum longus tendon |
| FDP | : Profundus |
| FDS | : Flexor digitorum superficialis |
| HIF-1 and HIF-2 | : Hypoxia-inducible factor |
| HS | : Highly significant |
| IC | : Intercarpal joint |
| L | : Lunate |
| LT | : Lister's tubercle |
| MCP | : Metacarpophalangeal |
| MRI | : Magnetic resonance imaging |
| MSKUS | : Musculoskeletal ultrasound |
| NS | : Non significant |
| P | : Pisiform |
| PDUS | : Power Doppler ultrasonography |
| PIP | : Proximal interphalangeal |
| PP | : Proximal phalanx |



| | |
|-------------|--------------------------------------|
| RA | : Rheumatoid Arthritis |
| RC | : Radiocarpal joint |
| RF | : Rheumatoid Factors |
| S | : Scaphoid |
| S | : Significant |
| T | : Triquetrum |
| TFCC | : Triangular fibrocartilage complex |
| US | : Ultrasonography |
| VEGF | : Vascular endothelial growth factor |



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Introduction

Rheumatoid Arthritis (RA) is a chronic systemic autoimmune disorder of unknown etiology characterized by symmetrical joint synovitis and pain. RA has a wide clinical spectrum and may vary from mild, non-erosive disease to severe inflammation and joint damage with extra-articular manifestations. The wrist and hand joints are affected early in the disease process, with some deformities occurring in the first two years of the disease (*Adams et al., 2004*).

RA is characterized by proliferative, hyper vascularized synovitis, resulting in bone erosion, cartilage damage, joint destruction, and long-term disability. Until recently, the absence of effective treatment to prevent joint destruction has limited the need for more sensitive imaging techniques. Availability of powerful and expensive drugs has created new demands on radiologists to identify patients with aggressive RA at an early stage to affect the therapeutic management of these patients (*Boutry et al., 2007*).