Introduction

Rheumatoid arthritis (RA) is a chronic inflammatory disease characterized by inflammatory activity of synovium leading to the destruction of the joint cartilage and bone along with periarticular structures like tendons and ligaments ***(Ozgocmen et al., 2008).***

Early diagnosis of an aggressive course of synovitis or pannus is crucial for the basis of a decision for aggressive treatment. In the early phases of joint destruction only a hyper- vascularized pannus can be detected ***(Backhaus et al., 1999).***

Precise assessment of disease activity and inflammatory changes within the joints is essential to follow up the efficacy of any treatment and disease course in RA ***(Ozgocmen et al.,2008).***

The possibility of imaging synovitis bone erosion, and cartilage damage in the early phase of the disease, dynamic evaluation of tendons, and fundamental help in guiding the needle positioning in interventional manoeuvres are some of the reasons for the success of musculoskeletal sonography compared with more invasive (or expensive) imaging techniques ***(Sedie et al., 2008).***

Power Doppler sonography (PDUS) allows for improved characterization of articular and peritendinous augmented volume because detection of hypervascularity correlates with inflammatory activity and further is helpful in differentiation from effusion and inactive pannus ***(Klauser et al., 2009).***

Power Doppler examination of rheumatoid hand joints is complementary to the clinical assessment and offers practical new alternative . A considerable number of patients achieving remission under certain disease-modifying anti rheumatic drugs continue to have ongoing synovial inflammation when assessed using a sensitive method like PDUS. Reasonably, a modification on current remission criteria by combining clinical and imaging examinations may be feasible. These results underscore the necessity of more sophisticated research assessing agreement between long-term Doppler findings and clinical parameters ***(Ozgocmen et al., 2008).***