Introduction

Rheumatoid Arthritis (RA), a chronic inflammatory disorder of the synovial membranes, is one of the most common systemic autoimmune diseases. Approximately 1% of the world population is affected. The diagnosis of RA depends primarily on clinical manifestations, but laboratory results are helpful in differential diagnosis and disease management. ***(Kim and Weisman, 2000)***.

Historically, rheumatoid factor (RF) has long been the serologic indicator for RA. However, it has been known for years that anti-keratin autoantibodies (AKA), also known as anti-perinuclear autoantibodies, are detected in 40-55% of RA patients ***(Vincent , 1989)***

AKA is considered significantly more specific than RF. Additionally, AKA may precede the clinical appearance of RA by months or years. Recently it was determined that AKA recognize an epitope that contains citrulline, the deiminated form of arginine. ***(Van Venrooj , 2000).***

Citrullinated proteins are not exclusively located in synovial tissue of RA patients, but can also be found in synovium samples of patients with other inflammatory joint diseases ***(Vossenaar et al., 2004)*** suggesting that the specificity of anti-CCP antibodies for RA is

not due to the expression of citrullinated proteins, but might be the result of an abnormal humoral response. Intriguingly, this antibody response may occur years before any clinical symptoms, as shown by the presence of anti-CCP antibodies several years before the clinical onset of arthritis ***(Nielen et al., 2004).***

But now, IgG antibodies against a synthetic peptide containing citrulline known as CCP (Cyclic Citrullinated Peptide) has proven to be superior to either AKA or RF testing in differentiating RA from other autoimmune diseases. ***(Bizzaro et al. 2001)***.