SydPath
ST VINCENT'S PATHOLOGY

www.sydpath.com.au

RHEUMATOID FACTOR (RF) AND ANTIBODIES TO CYCLIC CITRULLINATED PEPTIDE (CCP) IN THE DIAGNOSIS OF RA AND OTHER DISORDERS

INTRODUCTION

Inflammatory arthritis is a common manifestation of many chronic inflammatory diseases like systemic lupus erythematosus (SLE), scleroderma, Sjogren's syndrome and rheumatoid arthritis (RA), the commonest of all these disorders. The diagnosis of RA can be difficult, especially in early disease before all its clinical features have developed. Early diagnosis is important, because early treatment improves long-term outcomes, especially erosions and joint destruction. The only moderately helpful diagnostic blood tests for RA are rheumatoid factor (RF) and cyclic citrullinated peptide (CCP) antibody (Ab).

INDICATIONS FOR RF AND CCP Ab TESTING

Suspected rheumatoid arthritis or evaluation of any patient with chronic inflammatory disease.

RF AND CCP Ab ASSAYS

Rheumatoid factor is measured in blood by many different immunoassays that detect an IgM antibody directed to the Fc region of the IgG molecule. More recently another serological test has been developed that detects an IgG antibody to CCP. Citrulline is the name given to the amino acid arginine after it has been modified by peptidyl arginine deiminase. Concordance between different commercial RF assays is poor, so serial measurements are best undertaken using the same assay.

RESULT INTERPRETATION

Elevated RF and CCP Ab levels lack sensitivity as only a little over half of patients with RA are positive for one or both tests. Whilst both tests have a high specificity for RA, CCP is more specific than RF. The presence of RF or CCP Ab in RA is linked to a greater risk of erosive disease but RF and CCP Ab levels do not correlate with RA disease activity.

The presence of a positive RF or CCP Ab needs to be interpreted cautiously, as about 10% of patients with other immune-mediated chronic diseases also associated with arthritis, such as primary Sjogren's syndrome, SLE, scleroderma or psoriatic arthritis, can be positive for one or both antibodies. RF and CCP antibodies can also been seen with some chronic infections such as Hepatitis C and have been reported less frequently in a wide range of other disorders and in normal individuals.