## March 03/08:        Anti-CCP for classification and prediction

Early, aggressive treatment of rheumatoid arthritis (RA) with disease modifying anti-rheumatic drugs (DMARDs) and TNF$\alpha$ inhibitors decreases the development of radiographic erosions, decreases disease-related disability, and increases the rate of disease remission. The opportunity to impact on the natural history of RA is most pronounced in the first months after symptom onset.

With mounting evidence of the importance of early diagnosis and aggressive treatment, there is a need for criteria with the ability to appropriately diagnose subjects with early RA. The 1987 ACR criteria were developed for the classification of established RA but lack sensitivity for the early stage of the disease. Anti-CCP antibodies are present in the blood of the majority of RA subjects with established disease and their presence is associated with more severe, erosive disease. The authors of the following study evaluated the performance characteristics of proposed sets of classification criteria for RA, including anti-CCP antibodies:

Liao KP, Batra KL, Chibnik L, Schur PH, Costenbader KH
**Anti-CCP revised criteria for the classification of rheumatoid arthritis**
*Ann Rheum Dis, ARD Online first, published on Jan 30, 2008 as 10.1136/ard.2007.082339*

Medical records of 292 subjects were analysed. The CCP 6 criteria (rheumatoid nodules and radiographic changes excluded but anti-CCP included) increased sensitivity for RA classification for all subjects: 74% vs. 51% for ACR criteria with a loss in specificity (81% bs. 91%). Sensitivity was greatly improved in subjects with symptoms for less than 6 months: 63% vs. 25% for ACR criteria (Specificity: 72% vs. 86%). The authors conclude that "it is time to revise the 1987 ACR Classification criteria for RA in order to account for changes in technology and knowledge, and to develop more sensitive criteria for the classification of early RA."

Joint damage accounts for a considerable amount of the disability in RA. An optimal treatment strategy should include considerations on the presence or absence of predictors of joint damage. A study led by a group in Norway had the objective to assess the combined predictive role of a set of laboratory markers with regard to 10-year radiographic progression, and to examine the effect of anti-CCP level:

Syversen SW, Gaarder PI, Goll GL, Odegard S, Haavardsholm EA, Mowinckel P,  D van der Heijde, Landewé R, Kvien TK
**High anti-cyclic citrullinated peptide levels and an algorithm of four variables predict radiographic progression in patients with rheumatoid arthritis: results from a 10-year longitudinal study**
*Ann Rheum Dis 2008; 67: 212–217*

238 patients with RA were followed longitudinally for 10 years. Anti-CCP was the strongest independent predictor of radiographic progression. Female gender, high ESR (erythrocyte sedimentation rate), and a positive IgM rheumatoid factor were also independent predictors. Compared with the anti-CCP negative patients, patients with low to moderate levels of anti-CCP and patients with high levels of anti-CCP were more likely to develop radiographic progression. This is the first paper to assess the relevance of the levels of CCP antibodies to disease process.