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Undifferentiated Arthritis, early Rheumatoid Arthritis - late Rheumatoid Arthritis – comparison of the phenotype and function of peripheral T lymphocytes

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Over the last years much attention has been given to early rheumatoid arthritis (RA). Identification of patients destined to develop RA at the stage of undifferentiated arthritis (UA) is much difficult since no much specific diagnostic toll is available. Understanding the differences between early RA and late RA is one of the major challenges in elucidating RA patomechanism and improving treatment approach. A relatively new concept describes premature senescence of peripheral CD4+ T cells in established long-lasting RA patients while many questions concerning T-lymphocyte status in early RA and UA are still unanswered.

The presentation will provide key reviews of fundamental T-cell lymphocytes dogma in RA patomechanism and the results of the research conducted at the Department of Pathophysiology. The presentation will close to the truth about differences in peripheral immunological features between early RA and late RA based on the published and own study.

We focused on the number of fundamental lymphocytes subpopulations and proliferation kinetics of T cells. Additional objective was to find out if the status of the T lymphocyte may distinguish (predict) patients who develop RA among UA cohort We observed sophisticated changes in activation/suppressor status of CD4+ lymphocytes and number of CD28- negative T cells subpopulations. We showed that since number of main T cells subpopulations did not distinguish patients who develop RA at UA stage, but there were significant changes in proliferation status of T cells. According to the result we have developed a set of new predictive cellular biomarkers for early RA which would enable the international rheumatology recommendation to be achieved concerning the early diagnosis and treatment of RA patients.

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Diagnosis of Early Psoriatic Arthritis

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Nowadays, psoriatic arthritis (PsA) should be diagnosed early because the major goals of the management, i.e. the reduction of pain, the improving of function and the inhibition of joint damage, can best be reached by early intervention.

There are no diagnostic criteria for PsA but only classification criteria. Recently, new classification criteria, the CASPAR (ClASsification criteria for Psoriatic Arthritis have been developed by experts from 30 rheumatologic and have collectively been accepted. These criteria showed a better specificity and sensitivity than the previously published sets of criteria. One value of these criteria is that they allow the classification of disease despite the presence of rheumatoid factor and the absence of psoriasis is the typical findings of PsA are present. A major limitation of the CASPAR criteria could be the impossibility of their application in the recen-onset forms, since these were obtained from a population of patients with long-standing disease. Lately, some study group have studied the performance of the CASPAR criteria in cohorts of patients with early-onset disease. The Toronto group found a sensitivity of 99.1% in 107 consecutive patients with early disease. In the Swedish early psoriatic register, 134 out of 183 patients with onset of symptoms < 2 years met the CASPAR criteria. In 44 patients with a disease duration < 12 months consecutively admitted to our out-patient clinic, the sensitivity of the CASPAR criteria was only 77.3%. However, in the Italian multicenter study on early PsA preliminary results showed sensitivity 91%) and specificity (97.1%) values similar to those of the CASPAR original paper. In clinical practice, the CASPAR criteria should be considered, but the diagnosis should also be made if these are not met.

In the majority of patients with PsA the skin lesions appear before or at the same time of the musculoskeletal complaints. Therefore, the dermatologist has an exceptional opportunity to identify patients to be sent to the rheumatologist for an early diagnosis of PsA. Some screening tools have been suggested for the identification of the inflammatory manifestations of psoriatic disease to be filled in by the patient in the waiting dermatologic room or at home.

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