



Development of Tools (and Prediction Rules) to Time and Select Therapy in Treatment of Preclinical, Early and Established Rheumatoid Arthritis: Creating Enhanced Remedy (TRACER)

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Research Areas



Tool Development



Biomarker Research

Diagnostic, Genomic Biomarker

At a Glance

- Status: **Completed Consortium**
- Year Launched: **2010**
- Initiating Organization: **Center for Translational Molecular Medicine**
- Initiator Type: **Government**
- Location: **Europe**

Abstract

The TRACER project (Development of Tools (and Prediction Rules) to Time and Select Therapy in Treatment of Preclinical, Early and Established Rheumatoid Arthritis: Creating Enhanced Remedy) aims to produce appropriate tools for use at three distinct disease stages — for diagnosis, prognosis, and therapy selection during very early rheumatoid arthritis (VERA), early RA (ERA) and established RA (ESRA). Specifically, the project team will develop novel biochemical (genomic and proteomic) analysis tools and imaging techniques and will improve established ones to predict disease progression and therapeutic response. To do so, it will leverage rheumatology’s unique infrastructure of longstanding and ongoing data gathering from large patient cohorts with corresponding biobanking.

Mission

Since new effective medication (tumor necrosis factor (TNF)–blocking agents) is available, early detection of RA will be of increasing importance. The additional application of magnetic resonance imaging (MRI) in the rheumatology outpatient clinic (Early Arthritis Clinic, or EAC) will lead to the opportunity to integrate imaging modalities in clinical practice and to evaluate the additional value of



MRI. Early detection of RA and insight in response to therapy in ESRA will lead to personalized medicine, a major goal in the treatment of RA patients.

The project team will develop novel biochemical (genomic and proteomic) analysis tools and imaging techniques and will improve established ones to predict disease progression and therapeutic response, thereby enabling individualized therapy. To do so, it will leverage rheumatology's unique infrastructure of longstanding and ongoing data gathering from large patient cohorts with corresponding biobanking. The patient cohort will include a large number of patients (approximately 1,000) with arthralgia and positive genetic and/or serum markers that suggest an increased risk of developing RA (the VERA cohort). A second group will be well-studied patients with arthritis in an early stage, some with an undifferentiated arthritis and some already fulfilling the classification criteria for RA (the ERA cohort). During the course of the project, this cohort will include more than 3,000 patients. The third group will be patients with ESRA (ESRA cohort) who have been or are going to be treated with biologicals. More than 1,000 of these patients have already been studied, and another 1,000 will be studied during the project.

From many of the above-mentioned patients, biomaterials (e.g., serum, blood, deoxyribonucleic acid (DNA) and messenger ribonucleic acid (mRNA)) have been collected. Synovial tissue samples are available from more than 100 of them. Additional samples will be collected during the project, and sophisticated imaging will be performed on a number of patients. The collected information will help the project team to understand prognostic and diagnostic factors at different stages in the disease.

The following innovative methods will be used in the specific work packages of the TRACER project:

Imaging Tools:

Consortium History

Jan. 1, 2012: Start date

Dec. 31, 2014: End date

Financing



The total project budget is €13 million. Funding is provided by the Dutch government, industry, and academia. The research is focused firmly on the translational aspects of molecular medicine so that results can be applied as quickly as possible to actual patient care.

TRACER is one of the projects from the second call for proposals by the Center for Translational Molecular Medicine (CTTM).

Patent Engagement

All patients visiting the Early Arthritis Clinic of the Leids Universitair Centrum are eligible for this study. The ERA cohort consists of patients with early arthritis, undifferentiated as well as RA, and is based on several well-characterized cohorts with a large sample size.

Homepage

[https://www.myctmm.nl/pro1/general/start.asp?i=5&j=3&k=0&p=0&itemid=184&folder=Infection%20and%20immunity&title=Tracer%20\(Auto-immune%20disease\)](https://www.myctmm.nl/pro1/general/start.asp?i=5&j=3&k=0&p=0&itemid=184&folder=Infection%20and%20immunity&title=Tracer%20(Auto-immune%20disease))

Sponsors & Partners

Principal investigator: J.W.J. Bijlsma (University Medical Center Utrecht)

CTMM program manager: Henny Bruinewoud

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