A70 THE ANG-1/TIE2 ANGIOGENIC AXIS IS SELECTIVELY ENGAGED IN RHEUMATOID ARTHRITIS (RA) SYNOVIAL TISSUE EVEN BEFORE ACR CRITERIA OF RA ARE MET

M G H van de Sande, D de Launay, S Krausz, G P M van de Sande, C A Wijbrandts, P P Tak, K A Reedquist *Division of Clinical Immunology and Rheumatology, Academic Medical Center, University of Amsterdam, The Netherlands*

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Background Angiogenesis contributes to inflammation and joint destruction in rheumatoid arthritis (RA). Angiopoietins 1 (Ang-1) and Ang-2, which mediate blood vessel remodelling, as well as their receptor Tie2, are expressed in inflamed synovial tissue. The authors have recently shown that Ang-1 expression relative to Ang-2 is significantly higher in RA compared to psoriatic arthritis, corresponding with enhanced activation of synovial Tie2 in RA. The aim of this study was to determine if Tie2 signalling is selectively engaged early in the development of RA by investigating expression of Ang-1 and Ang-2 and activation of Tie2 in disease-modifying antirheumatic drug (DMARD)-naïve patients with early arthritis.

Methods The authors analysed synovial tissue biopsies of 50 DMARD-naïve patients with early arthritis, prospectively followed and diagnosed after 2 years. Quantitative analysis of expression or activation of the angiogenic markers was examined by immunohistochemistry and the results were compared between patients with different diagnoses.

Results Ang-1 expression was elevated at baseline in patients diagnosed with RA compared with those with spondyloarthritis (SpA) ($p<0.05$), while Ang-2 expression was elevated in patients with SpA compared with RA or those with

undifferentiated arthritis (UA) ($p<0.01$). Ang-1 expression was also elevated in patients initially classified as UA who fulfilled classification criteria for RA (UA>>RA) compared with those who remained UA (UA>>UA) ($p<0.05$). In contrast, no differences in serum levels of Ang-1 or Ang-2 were detected between the diagnostic groups. Tie2 activation was significantly elevated in UA>>RA patients compared with UA>>UA ($p<0.01$).

Conclusion Engagement of the Ang-1/Tie2 axis is specifically active in patients with RA, even in the earliest phases of the disease, indicating that this pathway might have an important role in the pathogenesis of RA. In contrast, Ang-2 may have a more important role in SpA.