A and follistatin. Migration assay shows that IL-1-induced decrease on migration more prominent in indirect coculture and RASF monoculture than in direct coculture although in gap migration in the scratch assay was highest in direct coculture.

Disclosure of Interests: None declared

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AB0045

THE RELATIONSHIP BETWEEN CD14 AND VIMENTIN-POSITIVE SYNOVIAL DENDRITIC-SHAPED CELLS AND SYNOVITIS IN RHEUMATOID ARTHRITIS

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Background: Inflammation in rheumatoid arthritis (RA) is caused by multiple cell types, including infiltrating inflammatory cells, such as lymphocytes, neutrophils, macrophages, and spindle-shaped fibroblasts. Especially, we are focusing on fibroblast-like synoviocytes (FLSs). In our previous study, we have reported that FLSs were positive for multiple markers including CD14, CD68 and HLA-DR, and were dendritic-shaped cells constituting nursing phenomenon between lymph or plasma cells. In addition, in our recent study, we found that CD14+FLSs were positive for vimentin (VIM), which is a marker for mesenchymal cells. There are still many issues to be discussed regarding CD14+VIM+ cells.

Objectives: To investigate the relationship between CD14+VIM+ cells and the degree of synovitis in rheumatoid arthritis.

Methods: Synovial tissues collected from RA patients who underwent joint surgeries were prepared for this study. First, the proportions of CD14+ cells in RA synovial tissue and control were analyzed using flow cytometry and the concentrations of inflammatory cytokines released by CD14+ cells in RA synovial tissue and control were examined by ELISA. Next, the proportions of CD14+VIM+ cells in RA synovial tissue and control were examined immunohistologically and then we analyzed the results using image analysis software. Also, we statistically analyzed the relationship between the proportion of CD14+VIM+ cells, the degree of synovitis, and clinical data.

Results: Results of flow cytometry showed that CD14+ cells were frequently observed in RA synovial tissue than control. Cultured CD14+ cells released more inflammatory cytokines than cultured CD14- cells. Also, results of immunohistological staining showed that many CD14+VIM+ cells were observed in RA synovial tissue than in control. The proportion of CD14+VIM+ cells was correlated with Krenn synovitis score. High proportion cases significantly showed high level of CRP and MMP-3.

Conclusion: CD14+VIM+ cells might be involved in the mechanism of chronic immunological inflammation in RA and the proportion of these cells might influence the clinical data.

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AB0046

THE EXPRESSION AND CLINICAL SIGNIFICANCE OF TAM RECEPTOR TYROSINE KINASE ON MONOCYTE SUBSETS IN RHEUMATOID ARTHRITIS

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Background: The TAM receptor tyrosine kinases (Tyro3/Axl/Mer TK) are a subfamily of receptor tyrosine kinases, the role of which in autoimmune diseases such as systemic lupus erythematosus has been well explored, while their functions in rheumatoid arthritis (RA) remain largely unknown [1].

Objectives: The study aimed to investigate the expression and clinical significance of Tyro3, Axl and MerTK on monocyte subsets in rheumatoid arthritis (RA).

Methods: The expression of Tyro3, Axl and MerTK on CD14+ monocytes, nonclassical monocytes (NCM, CD14⁺CD16⁺), intermediate monocytes (IM, CD14⁺CD16⁺), and classical monocytes (CM, CD14⁺CD16⁺) were evaluated in peripheral blood of RA by flow cytometry and qPCR. And the correlation between

the expression of Tyro3TK and MerTK on NCM, IM, and CM with RA patient clinical feature were further analyzed.

Results: The results revealed that the expression of Tyro3TK on CD14+ monocytes was significantly upregulated in RA patients ($F = 9.18$, $P < 0.0001$), while there was no significant difference of the expression MerTK on HC, OA, and RA, and the expression of AxlTK was minimal (Fig 1). The expression of Tyro3TK on CM was significantly upregulated in RA patients as compared with HC and osteoarthritis (OA) patients ($P < 0.05$, Fig 2-3), and positively correlated with the disease manifestations, such as swollen joint count (SJC), tender joint count (TJC) and the disease activity score (Fig 4).

Figure 1. The expression of Tyro3, Axl and MerTK on CD14+ monocytes is increased in RA. (a) Gating strategy for flow cytometry of Tyro3, Axl and MerTK on CD14+ monocytes. **(b)** The expression of Tyro3, Axl and MerTK on CD14+ monocytes were compared between HC (n = 40), OA (n = 27), and RA patients (n = 40). * $P < 0.05$, ** $P < 0.01$, ns, not significant.

Figure 2. The expression of Tyro3TK on IM and CM were increased in RA. (a) Gating strategy for flow cytometry of TAMTK on monocyte subsets. The expression of **(b)** Tyro3TK and **(c)** MerTK on NCM, IM, and CM were compared between HC (n = 40), OA (n = 27), and RA patients (n = 40). * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, ns, not significant.