A125 ANKYLOSING SPONDYLITIS: IMMUNOPHENOTYPICAL CHARACTERISTICS OF PERIPHERAL BLOOD AND SYNOVIAL FLUID COMPARTMENTS

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Objective A multi-parametric flow cytometry pilot study revealed a group of differentially regulated leucocyte surface markers in the peripheral blood (PB) of patients with ankylosing spondylitis (AS). 1 We selected some of them for a further independent verification investigation with additional analysis of synovial fluid (SF) leucocytes.

Methods A multicolour cytometry study using two fluorescent staining cocktails (5 and 7 colour) including antibodies to chemokine receptor, lipid antigen presenting molecules combined with lineage and migration markers was performed. A comparison was made of AS PB leucocytes with normal donors with additional analysis of patient's SF leucocytes.

Results We found in PB differential expression of five surface molecules (CXCR4, CD14, CD1c, CD1a, CD62L) of all 11 included in this limited verification analysis. CXCR4 was upregulated on lymphocytes ($p=0.004$), especially on CD8 T lymphocyte's naive and terminally differentiated effector subsets ($p=0.001$). We showed elevated CD1c expression on antigen presenting cells (APCs) ($p=0.001$) and population of CD19 lymphocytes ($p=0.02$). Moreover, non-B APCs in patient's blood revealed upregulation of CD14 ($p=0.006$) and CD1a ($p=0.02$) (a low number of CD1c+CD1a+ cells was observed in several AS samples). Patient's blood monocytes showed CD62L downregulation ($p=0.01$). All the above specified characteristics were emphasised in patient's SF: CXCR4 positivity of memory/effector lymphocytes, significant upregulation of CD14 on monocytes and downregulation of CD62L on monocytes and granulocytes in SF compared with PB, as well as abundantly represented subset of CD1c+CD1a+ APCs.

Conclusion Surface markers identified in PB as differentials for the AS and control groups were definitely involved in the local inflammatory process in joints. Localised in joints, the immune process could be sensed as the change in the surface marker pattern in the PB compartment.

REFERENCE

1. *Cytometry Part A* 2008;**73A**:333–40.