LYMPHOCYTE MARKERS CORRELATION IN TISSUE AND BLOOD IN VISNA/MAEDI EXPERIMENTALLY-INFECTED SHEEP

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Introduction
Visna/maedi (VM) provokes an inflammatory response lead by lymphocytes. The expression of lymphocyte markers is useful to understand the pathogenesis of the disease. The aim of this work was to study the expression of lymphocyte markers involved in the evolution of VM in an experimental infection by using flow cytometry (FC) and immunohistochemistry (IHQ).

Material and Methods
Twenty Raza Aragonesa lambs, negative by ELISA and PCR for VM, were distributed into two infected groups (8 animals each) and one control group (4 animals). Infected lambs were inoculated intratracheally with 10⁶TCID₅₀ either with an articular (496) or nervous strain (697). Blood was tested periodically by FC for the expression of CD4, CD8 and FoxP3 on all animals. At 210 dpi two animals from each infected group (A1, A2, N1, N2), selected by high ELISA values and one control (C) were killed and studied by pathological means. The inflammatory pattern was characterized by IHQ using CD3, CD4, CD8 and FoxP3.

Results
• Pathological examination demonstrated carpal proliferative arthritis on the two animals from the articular group (A1, A2; Figs 1 and 2). The animals from the nervous group (N1, N2) did not present lesions at the SNC. Microscopically all infected animals presented different degrees of interstitial pneumonia associated with lymphoid follicles. No lesions were found on the control animal.
• Tissue expression of CD4, CD8, FOXP3 and CD3 are presented on Figure 3.
• Blood expression of CD4 and CD8, on each group is shown on the Figure 4.
• Expression of FOXP3 was always low and did not differ between groups.

Conclusions:
• At 210 dpi, 496 strain is able to reproduce the VM induced arthritis whereas 697 strain does not reproduce VM SNC lesions. However, all infected animals presented typical VM lesions in the lung. VM arthritis may show fibrosis as the main pathological change.
• In tissue, CD4 were the predominant lymphocyte subset in arthritic lesions at 210 dpi. In blood, CD8 were significantly increased only in 496 strain infected animals.
• More data will be achieved by the end of the experiment that is programmed to be concluded by the end of 2013.