**USE OF FLOW CYTOMETRY IN THE DIAGNOSIS OF CANINE LYMPHOMA**

**Pallarès Silvestre, Marc**

Facultat de Veterinària de la Universitat Autònoma de Barcelona

---

**OBJECTIVE**

The aim of this poster is to perform a bibliographic review of the flow cytometry and its usefulness in immunophenotyping lymphocytes of a dog, and thereby diagnose and classify the subtype of canine lymphoma.

**FLOW CYTOMETRY AND INDICATIONS**

Flow cytometry is defined as a technology that measures multiple characteristics of cells as they pass through a light source in a fluid stream. In addition to cells, flow cytometers can detect chromosomes, proteins, and other molecules. Most top flow cytometers are dedicated to analytical methods that measure light scatter and emitted fluorescent light.

**DIAGNOSIS OF CANINE LYMPHOMA BY FLOW CYTOMETRY**

In the majority of cases the lymph node cells of dogs with lymphoma are represented as two separate clouds of dots in the scatter diagram (Figure 1). Cells of region 1 (R1) are significantly larger (high forward scatter values, FSC) and more granulated (high side scatter values, SSC) than normal lymphocytes (R2). These cells are neoplastic lymphocytes. Lymphoma cells, cells of the region 1, undergo a two-colour immunofluorescence analysis for CD3 and CD79a. Scatter diagram projection of the measured fluorescence-intensity of these cells are shown in Figure 2.

**CONCLUSION**

In conclusion, the analysis of canine lymphoma cells by flow cytometry is a safe technique, which can be recommended for determining tumor cells immunophenotype. In addition, the combination of a flow cytometry and a cytology of a lymph node fine needle aspiration can be useful for diagnosing and classifying canine lymphomas.

Immunophenotyping a canine lymphoma could also be important for prognosis and for therapy choice, because the T-cell immunophenotype is associated with a poorer response to treatment.