

TESTING METHODS OF CANINE AND FELINE BLOOD GROUPS COMPATIBILITY IN CLINICAL CONDITIONS

Jelena Andrejeva, Aija Ilgaža

LLU, Veterinārmedicīnas fakultāte, Preklīniskais institūts, Latvija

LUA, Faculty of Veterinary Medicine, Latvia

INTRODUCTION: To carry out the blood transfusion procedure for animals, first of all the blood compatibility should be done. That is important in order to prevent haemolytic reactions after incompatible blood transfusion and also from the same agglutination reaction in animal during the neonatal period if the mother and the puppy or kitten shares the same type. Beside the most popular testing methods described in literature as "glass slide" and "test tube" methods or Kumba reactions, in the veterinary clinics use as well the direct test (slide test with mixing animal blood drops), and the special blood-grouping express-tests. In publications and study materials it's started that the agglutination reaction after blood transfusion is caused by more than first simple immunological reactions between donor \ recipient antigen and antibody. One to this several key methods that are used to determine the compatibility of blood – which is done before blood transfusion. The aim of our study was to compare the usability of tests of the donor and recipient blood compatibility and to evaluate the accuracy of the obtained results of these tests in the veterinary clinic conditions.

MATERIAL AND METHODS: The group of dogs (n=10) and cats (n=10) was formed. Blood samples were collected from randomly included animals (pure bred and no breed animals) from *v. brachiocephalica* or *v. jugularis externa*. We tested the donors and recipients blood compatibility with two basic methods, direct method and *Alvedia Quick* Express-test. Taking into account that the first blood transfusion in dogs usually is quite safe, and to make our research more close to the real conditions, we performed the immunisation in few animals with other blood from the same species animal. The Kumb reaction was very complex and problematic to perform in the clinic. During the research the equipment, performance and conditions were close to real clinic conditions.

RESULTS: By comparing all four methods of donor and recipient blood compatibility we found that the faster way to compare the blood compatibility was the express-test (not more than 5 min), and also the mixing a blood drops on the slide. The „glass slide” and the „test tube” methods performance required 60 min, but the Kumba test was not possible to perform at all for many reasons. Precision tests of the donor and recipient blood compatibility were *Alvedia Quick* Test 100 %, direct method 26 %, “glass slide” method 14,3% and “test tube” method 14,3 %.

We can **conclude** that in the veterinary clinic only the Express-test (for example *Alvedia Quick*) method is faster and more accurate than others.