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deposits appeared in the membrane and mesangial area. These results are similar to the ones observed by Pizzirani (1989).

In the cases of MPGN types I and II we saw immunocomplex deposits in the subendothelial area in the type I and in subepithelial and mesangial areas in the type II.

We observed important immunological differences between these two types. In the MPGN type I we found deposits of IgG, IgA, IgM and C<sub>3</sub> and in the MPGN type II we principally found IgM (Fig. 2) and a smaller proportion of C<sub>3</sub>. These results correspond with the observations of Rosen (1983).

In conclusion, the results of this study indicate that immunologically the deposits are IgG and C<sub>3</sub> in the initial lesions and IgG and C<sub>3</sub> in

the advanced stages of glomerulonephritis and glomerular sclerosis. IgA did not appear to play a role in the process.

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### IDENTIFICATION OF CANINE AND FELINE MEGAKARYOCYTIC CELLS (NORMAL/LEUKEMIC) BY THE DEMONSTRATION OF GLYCOPROTEIN GPIIB/IIIA AND VON WILLEBRAND FACTOR

*F. Colbatzky, J. Darbès, G. Minkus, W. Hermanns*

It is nearly impossible to discern the immature blast cells of the four hematopoietic cell lines in paraffin sections routinely stained with hematoxylin-eosin or Giemsa. So the reliable identification of promegakaryoblasts and megakaryoblasts is difficult. Besides, some tumours such as myelomas or osteoclastomas can show morphologic characteristics very similar to those of megakaryocytic leukemia.

We, therefore, used air-dried blood films from EDTA-anticoagulated blood, glass slides with platelet films prepared by centrifugation of platelet-rich plasma in a special cytocentrifuge, and cryostat, paraffin as well as plastic sections of normal bone marrow to develop a method for the immunohistochemical demonstration of normal and leukemic megakaryocytic cells in formalin-fixed tissue samples in dogs and cats. In addition, formalin-fixed and paraffin or plastic embedded organ specimens of one cat and two dogs suffering from megakaryocytic leukemia were investigated. The 3 monoclonal antibodies Y2/51 (Dakopatts), CLB-37 (Janssen) and HPL-1 (Sera-Lab) directed against antigenic determinants on the human glycoprotein complex gpIIb/IIIa and a polyclonal antiserum directed against human von Willebrand factor (anti-vWF, Dakopatts) were used.

According to our hitherto performed investigations strong and reliable immunohistochemical staining of normal and leukemic mega-

karyocytic cells could only be achieved with Y2/51 and anti-vWF in paraffin sections. Plastic sections always gave negative results with all antibodies used. The monoclonal antibody CLB-37 detected only human and feline platelets and megakaryocytic cells. The intensity of reaction products was always considerably lower in dogs than in cats. In both species the results with anti-vWF were generally better than with the monoclonal antibodies. In the three cases of megakaryocytic leukemia both megakaryocytes and blast-like tumour cells were stained, the number of positive tumour cells being higher in the cat. All three cases showed a strong labeling of endothelial cells with anti-vWF.

To test the specificity of the monoclonal antibodies in dogs and cats, probes of platelet membranes were prepared for SDS-PAGE. The electrophoretically separated proteins were then blotted to nitrocellulose filters and stained by an indirect immunoperoxidase technique. In both species the monoclonal antibody Y2/51 detected a protein, which was in respect of the molecular weight similar to human gpIIIa (unreducing conditions). As expected, HPL-1, which is directed against the whole glycoprotein complex gpIIb/IIIa, gave negative results. Similarly, the binding site of the gpIIIa specific monoclonal antibody CLB-37 was obviously destroyed in the experimental conditions.

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### DEMONSTRATION BY IMMUNOCYTOCHEMICAL METHODS OF THE T LYMPHOCYTIC ORIGIN OF A FAMILIAL BOVINE THYMIC LYMPHOSARCOMA

*B. Da Costa, S. Djilali, B. Sacré, J. L. Kessler, F. Femenia, A. L. Parodi*

Bovine leukosis is a malignant tumour of lymphoid cells. Four epidemiological and anatomical forms of the disease are known: the adult multicentric form, the cutaneous form, the adolescent thymic form and the multicentric calf form (Bendixen, 1965) (1).

The observation of 216 cases of the thymic form of bovine leukosis during a short period in some areas of France prompted us to

undertake studies of these unusual tumours. A genetic survey demonstrated that all the leukotic calves were sired by the same bull. The occurrence has been estimated to 3% among the offspring of the bull (2).

### Material and methods

A complete study was undertaken in 38 tumour cases by hematology, serology, light and electronic microscopy and immunocytochemi-