



A. Tipold

**Andrea Tipold**

- 1983** DVM, University of Veterinary Medicine, Vienna, Austria  
 Postdoctoral work at University of Veterinary Medicine, Vienna; Institute of Animal Neurology, Berne, Switzerland, and Dept. Clinical Studies, Immunology, Philadelphia/USA.
- Since 1999** Professor at the Small Animal Clinic at the School of Veterinary Medicine Hannover.

**Current Research**

Clinical neurology: The research of our group focuses on the pathogenesis of diseases of the central nervous system (CNS). Mainly these pathogenesis studies are directed to inflammatory / infectious CNS diseases of dogs, such as canine distemper encephalitis and steroid responsive meningitis-arteriitis. In addition, current clinical problems are evaluated in smaller projects. Besides research a task of our group is the specialist training in veterinary neurology according to the regulations of the European College of Veterinary neurology.

1. Microglia

Microglial cells are the main immune effector cells of the brain and were shown to be activated in many neuropathological conditions including inflammation, neurodegeneration, trauma, stroke, epilepsy, multiple sclerosis, alzheimers disease and demyelination. Principally microglia can exert similar effector functions like macrophages, but are also supposed to protect brain tissue. At the moment our group is performing a study on microglia in dogs. Cells are isolated and studied ex vivo. Enhanced ROS production was found to be specific for demyelination in the acute, non-inflammatory stage of canine distemper virus infection.

2. Steroid responsive meningitis-arteriitis (SRMA)

SRMA is a frequently occurring painful disease of dogs being an animal model for vasculitis of unknown origine. The research is directed to the aetiology and pathogenesis of this disease. IgA seems to play a major function. Several autoantibodies can be found. Virus isolation attempts as well as search for bacterial infection remained negative so far. At the moment we are trying to further characterize the intrathecally produced IgA to study the function of IgA in the CNS. This includes studies on the mechanism on production, of the size and the detection of antigens against the IgA is directed.

3. Clinical studies

In addition several clinical projects are conducted: studies on paraneoplastic polyneuropathy in dogs, improvement of treatment in epileptic dogs together with the pharmacology department, studies on hereditary ataxia in the Jack Russell Terrier, a possible model for Friedreichs Ataxia in man, studies on TSE sensitive species such as ruminants and cats.

**Future Projects and Goals**

The major goal in our research projects remains the further characterization of the immune system in the CNS in dogs. The aim is the improvement of treatment of certain conditions such as demyelination. Knowing the function of different immune cells in the brain can improve and lead to discovery of new treatment regimens.

## Selected Publications

- [1] Tipold, A., R. Fatzner, A. Jaggy, P. Moore and M. Vandevelde (2000) Presumed immune mediated cerebellar granulo-prival degeneration in the Coton de Tulear breed. **J. Neuroimmunol.** 110:130-133.
- [2] Demierre, S., Tipold, A., Griot-Wenk, M. Welle, M. Vandevelde and A. Jaggy (2001) Correlation between the clinical course of granulomatous meningoencephalitis in dogs and the extent of mast cell infiltration. **Vet. Rec.** 148:467-472.
- [3] Tipold, A., M. Vandevelde, R. Wittek, P. Moore, A. Summerfield and A. Zurbriggen (2001) Partial protection and intrathecal invasion of CD8 + T cells in acute distemper virus infection. **Vet. Microbiol.** 83:189-203.
- [4] Wessmann, A., O. Distl, T. Gödde, A. Fischer, S. Demierre und A. Tipold (2001) Untersuchungen zum Erbgang der Hereditären Ataxie der Jack Russell Terrier – vorläufige Ergebnisse. **Kleintierpraxis** 46: 65-70
- [5] Gruber, A.D., A. Wessmann, M. Vandevelde, B.A. Summers and A. Tipold (2002) Mitochondriopathy with regional encephalic mineralization in a Jack Russell Terrier. **Vet. Pathol.** 39:732-736.

## Group Structure

Group leader (clinical neurology): Andrea Tipold  
Postdoctoral fellows: Veronika Stein, Irene Böttcher  
Graduate students: Thilo von Klopmann, Henning Schenk,  
Kolja Schulte, Simone Schröder  
Technicians: Regina Carlson

## Contact

Prof. Dr. Andrea Tipold  
Small Animal Clinic  
School of Veterinary Medicine  
Bischofsholer Damm 15  
30173 Hannover  
Germany  
Phone: +49-511-953-7666  
Fax: +49-511-953-7686  
Email: [Andrea.Tipold@tiho-hannover.de](mailto:Andrea.Tipold@tiho-hannover.de)