

## 15 Summary

### **Myeloperoxidase and C - reactive protein as markers for canine osteoarthritis**

The aim of this study was to determine MPO activity in the synovia of joints affected by osteoarthritis (OA), in the synovia of their respective contralateral joints, and in the serum of dogs. Furthermore, serum CRP concentrations were to be measured.

75 dogs undergoing surgery at the Klinik und Poliklinik der Freien Universitaet Berlin because of a joint disease which leads to OA were assessed. In addition, synovia of 8 OA-free dogs was collected and analyzed. Samples analyses were performed at the Institute of Veterinary Biochemistry at the Freie Universitaet Berlin.

The duration of lameness, possible prior treatment, degree of lameness, painfulness, degree of joint effusion, and x-ray findings were documented.

Synovia was collected from the affected and contralateral joint; MPO activity was determined using an o- dianisidine assay. In addition, MPO serum activity was measured. Moreover, CRP serum concentration was determined using an ELISA test kit (Tridelta®).

Clinical findings varied markedly among the various animals studied. The duration of lameness ranged from two days to four years. While no X-ray changes were observed in some animals, high-grade changes were revealed in others.

MPO activity in the synovia of affected joints ranged from 0 to 13.94 mU/L, with a median (M) of 1.007, compared to a median of 0.34 (range, 0 – 3.66) for healthy joints. This difference was statistically significant ( $p < 0.05$ ). Controls also showed a low synovial activity (M=0.75).

Serum activity was higher in affected animals (M=1.75) than in controls (M=0.075); however, no correlation to synovial activity was found.

Furthermore, there was no association between synovial and serum MPO activity and serum CRP concentration.

Likewise, parameters assessed by clinical examination and synovial and serum MPO activities, as well as CRP concentrations appeared to be unrelated.

Further studies with longer observation periods may result in a better understanding of MPO activity in OA.