

A COMPARISON OF SERUM CHONDROITIN SULFATE EPITOPE LEVEL BETWEEN NORMAL HORSES AND HORSES WITH ARTHRITIS, OSTEOCHONDRAL (CHIP) FRACTURE OR OSTEOARTHRITIS

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Abstract The purposes of this study was to compare the level of chondroitin sulfate epitope (WF6 epitope) in serum between normal horses and horses with arthritis, osteochondral (chip) fracture (OC) or osteoarthritis (OA), and to compare the level of chondroitin sulfate epitope (WF6 epitope) in serum of horses with osteochondral (chip) fracture prior to and after treatment by arthroscopic surgery. Serum samples were collected from horses age 2 to 9 years old in Chiang Mai, Nakornratchasima, Saraburi and Khonkhaen. Fifty clinically normal horses, 6 horses with arthritis, 12 horses with OC and 24 horses with OA were used. Laboratory tests included complete blood count and blood chemistry. Concentrations of WF6 epitope were measured by competitive inhibition ELISA. The results showed that horses with arthritis, OC or OA had significantly lower median serum WF6 epitope concentration than clinically normal horses ($p < 0.05$) controlling for age and breed. There was significant relationship between WF6 epitope concentration and diseased or working status ($p < 0.05$). The comparison of serum WF6 epitope concentration in horse with OC prior to and after treatment by arthroscopic surgery showed gradual increased after treatment from week 4, 8 to 12. The results from this study demonstrated that the level of serum chondroitin sulfate was associated with joint disease. Therefore, WF6 epitope may be used as biological marker to indicate articular cartilage degradation and used for diagnosis or monitoring of treatment in equine joint disease. **Chiang Mai Veterinary Journal 2006;4(2):83-99.**

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