

## **A preliminary investigation on prevalence, severity and clinical significance for occipital bone exostoses in Dressage and Standardbred horses**

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### **Background and Objectives**

Head and neck hyperflexion during working has gained attention as a potential risk factor for nuchal ligament elongation, increased pressure in the atlanto-axial region, development of exostoses on the occipital bone (EOB) and nuchal bursa inflammation. Dressage (DH) and Standardbred horses (STBR) have different genetic, tack, working conditions and age during their athletic careers, all of which could affect prevalence and severity of EOB in these breeds. To test this hypothesis, we retrospectively assessed evidence of radiographic EOB and associated clinical signs in 64 DH (4; range, 1-18 years) and 32 STBR (4; range, 1-11 years) evaluated for reasons unrelated to the study.

### **Material and Methods**

All horses had their poll examined and occipital bone imaged (radiographic view centred on the external occipital protuberance). Clinical response to digital pressure of the poll was classified as painful or not. Radiographic images were blindly assessed, and lesion severity expressed using a 5-point score whose interobserver agreement was assessed using a 2-way random effects model (ICC>0.8). Associations between score and clinical data were investigated with logistic regression.

### **Results**

EOB were identified in 79% STBR and 75% DH (p=0.8). Radiographic score significantly increased with age (OR 1.3; 95% CI 1.1-1.5; p<0.0001). Horses showing palpation soreness were ~3-fold more likely to have higher scores compared to horses with a non-painful response (OR 3.6; 95% CI 1.5-9.0; p=0.005).

### **Conclusions**

EOB prevalence is similar in DH and STB. Increasing age and palpation soreness are associated to severity of radiographic findings in the occipital region.

**Conflict of interest:** The authors declare no conflict of interest.

**Ethical committee:** Not applied as only horses examined for clinical problems were retrospectively enrolled, and for which informed consent of the owners for research use of clinical data was available.

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