Racing Prognosis of Thoroughbred Yearlings With Dorsal Proximal Accessory Carpal Bone Fragments

Jennifer L. Higgins, DVM; Deborah L. Spike-Pierce, DVM; and Lawrence R. Bramlage, DVM, MS, Diplomate ACVS

Dorsal accessory carpal bone fragments alone and with mild osteophytes of the antebrachiocarpal joint have a negative effect on racing performance. Authors’ address: Rood and Riddle Equine Hospital, PO Box 12070, Lexington, Kentucky 40580-2070; e-mail: jhigginsdvm@gmail.com. © 2010 AAEP.

1. Introduction
There is a need to document relationships between radiographic lesions and athletic performance so that the purchase of horses with radiographic changes that may limit potential can be properly valued. Research has shown that complete accessory carpal bone fractures can be overcome with affected horses going on to race. Few studies have evaluated fragments of the articular surface of the accessory carpal bone and the effect of these fragments on racing performance.

2. Materials and Methods
Repository radiographs of Thoroughbred yearlings offered for public sale from 2004 to 2007 were examined retrospectively. Horses were eligible for inclusion if they had a fragment of the articular surface of the accessory carpal bone. Horses with complete accessory carpal bone fractures were excluded. The presence or absence of osteophytes in the antebrachiocarpal joint was also recorded. The relationship of these pathologies to racing performance was compared with maternal siblings as controls. Statistical analyses were performed using unequal variance analysis of variance.

3. Results
Forty-five yearlings met the inclusion criteria. A significant decrease in earnings per start as 2 and 3 yr olds and a significant decrease in total earnings as 3 yr olds were shown in study horses compared with maternal siblings. When osteophyte formation and affect were evaluated in comparison to siblings, significance was shown in earnings of 2 and 3 yr olds and earnings per start.

4. Discussion
Racing and quality of performance are complex outcomes influenced by multiple factors. Our study shows accessory carpal bone fragments do not affect the number of starts but do significantly influence the horses’ earnings at 2 and 3 yr of age. Mild osteophyte formation in the antebrachiocarpal joint along with accessory carpal bone fragments has a negative effect on performance.