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Horses with apical sesamoid fractures have a good prognosis for returning to racing following arthroscopic removal of the fragment. The prognosis for Thoroughbred and Quarter Horse racehorses is similar to that previously reported for Standardbred racehorses. Horses with small-apical fractures and horses that had raced prior to surgery had the most favorable prognosis. Authors’ Address: Department of Clinical and Biomedical Sciences, Colorado State University, 300 W Drake Rd, Fort Collins, CO 80526. © 2000 AAEP.

Introduction
Apical fractures are common fractures of the proximal sesamoid bones. Retrospective studies have evaluated the success of Standardbred racehorses following surgical removal of apical sesamoid fragments. In these studies, surgical removal of the fragments was achieved predominantly by using an arthrotomy approach to the fetlock joint. An arthroscopic approach to the fetlock joint for removal of apical fragments has been described, however the outcome for only a small number of horses was reported. The purpose of this retrospective case study was to determine the success of horses following arthroscopic removal of apical fractures of the proximal sesamoid bones, and to determine the association between fragment size and outcome.

Materials and Methods
Case records of horses admitted to Colorado State University and the Equine Medical Center, Cypress, CA, between 1989 and 1999 were used in a retrospective case study of apical sesamoid fractures. Only horses that were treated using arthroscopic removal of the fragment were included in the study. Radiographs and surgical reports were used to determine the fracture grade by measuring the proximal to distal length of the fragment. Fractures were classified as: small-apical, large-apical, or apical-abaxial fractures. Outcome was obtained from racing records and telephone conversations with the owner, trainer, or veterinarian.

Results
Ninety-eight horses met the selection criteria. Thoroughbred horses were most commonly affected. The median age of horses affected was 3 years. Most horses were racehorses. The lateral and medial sesamoid bones were affected approximately equally; however, horses with small- or large-apical fractures had the lateral sesamoid bone affected more
commonly, and horses with apical-abaxial fractures had the medial sesamoid bone affected more commonly. Forelimbs and hindlimbs were approximately equally affected; however, horses with small- and large-apical fractures were more likely to have hindlimbs affected compared to horses with apical-abaxial fractures. The left and right hindlimbs and the left and right forelimbs were equally affected. There were 40 horses with small-apical fractures, 31 horses with large-apical fractures, and 27 horses with apical-abaxial fractures. Overall, 64% of horses returned to racing; 74% of horses with small-apical fractures; 63% of horses with large-apical fractures; and 57% of horses with apical-abaxial fractures returned to racing. Of the horses that had raced prior to surgery, 74% raced after surgery. Followup was obtained for 11 non-racehorses: 8 horses showed no signs of lameness, 2 horses had chronic suspensory ligament desmitis, and 1 horse died from unrelated disease.

Discussion

Horses with apical sesamoid fractures have a good prognosis (64%) for returning to racing. Spurlock and Gabel reported 64% of Standardbred racehorses with apical sesamoid fractures that raced before surgery returned to racing following removal of small apical sesamoid fragments via arthrotomy. Woodie and others reported an overall success of 67% for Standardbred racehorses, with apical sesamoid fractures removed via arthrotomy or arthroscopy; and 88% of horses that raced before surgery, raced after surgery. Our results for Thoroughbred, Quarter Horse, and Standardbred racehorses with apical sesamoid fractures removed via arthroscopy are similar to those reported previously for Standardbred racehorses with fragments removed via arthrotomy. We found that horses with small-apical fragments were more likely to be successful than horses with large-apical or apical-abaxial fragments, which is different to previous reports. This inconsistency is most likely because of different fragment grading methods and statistical analysis. The effect of suspensory ligament desmitis on outcome was not evaluated in our study because ultrasound of the suspensory ligament is not routinely performed on horses with apical sesamoid fractures in our hospital. We found a higher percentage of horses with the forelimbs affected compared with previous studies in Standardbred racehorses, which may reflect the variation in the forces on the distal limb associated with the different gaits.

In conclusion, horses with apical sesamoid fractures have a good prognosis for returning to racing. Horses with small-apical fractures have a more favorable prognosis compared to horses with large-apical or apical-abaxial fractures, and horses that have raced prior to surgery have a more favorable prognosis compared to horses that have not raced prior to surgery.

References