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Arthroscopic debridement of cystic lesions of the medial femoral condyle in unraced Thoroughbred horses results in a high overall achievement of racing soundness. The amount of cartilage surface disrupted by the cyst seems to be a better indicator of racing success than radiographically assessed lesion depth. Authors' addresses: Large Animal Veterinary Associates, El Cajon, CA 92019 (Sandler); Rood and Riddle Equine Hospital, Lexington, KY 40580 (Bramlage, Embertson, Ruggles); and Equine Orthopaedic Research Laboratory, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO 80523 (Frisbie). © 2002 AAEP.

1. Introduction

Subchondral cystic lesions of the medial femoral condyle are a common cause of hind limb lameness in unraced Thoroughbred (TB) horses. Options previously suggested for treatment included rest alone, which has been reported with success rates from 20% to 64%.1,2 Surgical treatment options have reported success rates ranging from 51% to 74% for debridement and drilling through arthrotomy.3,4 However, these studies were based on a relatively small number of horses and used horses from a variety of breeds and disciplines, using multiple criteria for success. The purpose of this study was to present objective criteria of racing performance of a large number of TB racehorses that had undergone arthroscopic surgical debridement alone.

2. Materials and Methods

Patient files and race records were reviewed for 150 TB horses undergoing arthroscopic debridement of cystic lesions of the medial femoral condyle between 1989 and 2000. Age, sex, limb or limbs affected, lesion characteristics, and racing performance were recorded. The depth and width of each lesion was measured radiographically and classified based on depth as either type I or type II, as previously described.5 Additionally, the amount of cartilage surface disrupted by the injury was measured through arthroscopy at the time of surgery and the horses were divided into two groups: those with lesions...
that involved 15 mm or less cartilage surface and those with greater than 15 mm of disruption. Produce records for the dams of each affected horse were obtained from Jockey Club Information Services. Date of birth, number of starts, earnings during the 2-, 3-, and 4-yr-old years, and number of total career starts and earnings were recorded for each horse and their maternal siblings. Additionally, average earnings per start for each racing year and career were calculated and recorded. These values were recorded for each operated horse and 869 maternal siblings. The test of proportions was compared using a $\chi^2$ statistic, continuous data were analyzed using a one-way analysis of variance, and individual means were compared using a least-squares mean. Significance was set at $p \leq 0.05$.

3. Results
During the period between 1989 and 2000, 150 clinically lame TB horses with a total of 214 subchondral cystic lesions of the medial femoral condyle had surgery. Of the 150 horses, 86 (57%) had unilateral lesions and 64 (42%) had bilateral lesions. A total of 96 (64%) of the horses that were operated on raced, whereas 77% of the siblings raced. Forty-eight percent of females raced, whereas 71% of males raced. Twenty-eight percent (42) of the horses that were operated on raced as 2-yr-olds, 61% (79) of the horses raced as 3-yr-olds, and 51% (55) of the horses raced as 4-yr-olds. Number of starts and average earnings per start for the horses that had been operated on were less than their maternal siblings for their 2- and 3-yr-old racing years, but were similar to their siblings for the 4-yr-old racing year. Of the 49 horses with type I lesions, 34 (69.3%) horses started a race in their career, whereas 62 (61.3%) horses with type II lesions started. There were 91 (60.6%) horses with $\leq 15$ mm of surface debridement and 59 (39.3%) horses with $>15$ mm of surface debridement. Of the 91 horses with 15 mm or less of surface disrupted, over 70% started at least one race, whereas about 30% of the 59 horses with greater than 15 mm of cartilage surface involvement started a race. Amount of cartilage surface affected seemed to be a better predictor of success than lesion depth.

4. Discussion
The likelihood of a horse that had been operated on starting a race was influenced by sex and year of racing; horses who had operations were more likely to start a race during their 3- and 4-yr-old racing years. Lameness and the need for surgery delayed the development of a racing career for the horses who had operations. Although females were just as likely to be affected, they were less likely to race, presumably because of their value as breeding animals. The ability to start a race was influenced less by depth of lesion and more by the amount of cartilage surface disrupted by the lesion, suggesting that evaluation at time of surgery and the amount of cartilage disrupted with debridement of lesion is a better indication of the likely success of the patient as a race horse than is the radiographically assessed lesion depth. This study was intended to provide an estimation of expected racing performance of TB racehorses after arthroscopic debridement alone, and the longevity and level of racing success compared with their maternal siblings. Overall, approximately two-thirds of the operated horses started at least one race in their career, and by the time they reached their 4-yr-old racing year, horses that had been operated on started an equivalent number of times and earned an equivalent amount for average earning per start as their siblings. In conclusion, TB racehorses that have undergone arthroscopic debridement alone for treatment of subchondral cystic lesions of the medial femoral condyle have a high success rate for resolution of lameness and the ability to race.

References