Treatment of Refractory Exostoses of the Midportion of the Splint Bones

L. R. Bramlage, DVM, MS; L. Van Hoogmoed, DVM; R. Embertson, DVM; and S. Hance, DVM

Exostoses of the midportion of the splint bones can be very refractory to treatment. If routine treatment regimes fail then surgical removal is an option, with a 57% chance of high-quality return to performance. Authors’ address: Rood and Riddle Equine Hospital, P.O. Box 12070, Lexington, KY 40580. © 1997 AAEP.

1. Introduction

Exostoses of the proximal aspect of the splint bones are a routine minor injury of the horse in strenuous exercise. Fortunately, exostoses of the proximal 1/3 of the splint bone are self-limiting. Once the exostosis fuses the splint bone to the cannon bone, the motion between the splint bone and the cannon bone ceases and the pain and lameness are eliminated. To our knowledge, little or no information is available in the literature on exostoses of the midportion of the splint bone.1 The difficulty with exostoses of the midportion of the splint bone is that stable fusion is sometimes difficult to achieve. With the inability of the exostosis to stop the motion, pain and usually severe disabling lameness persist. The purpose of the study was to test the hypothesis that surgical removal as a treatment for midsplint exostoses was a feasible treatment.

2. Materials and Methods

Thirty Thoroughbred racehorses presented with an exostosis of the middle portion of the splint bone that was causing severe disabling lameness were treated with surgical removal of the exostosis and the distal splint bone. Twenty-seven of the exostoses were of the MCII, with 17 located on the left forelimb. Surgical removal was a last resort in all horses, as one or more other treatments had failed to resolve the lameness. All horses had been treated with a period of rest and some other therapy, including injection with inflammatory agents, anti-inflammatory agents, thermocautery, cryotherapy, radiation therapy, or a combination of methods. No horse had a fracture of the splint bone, though there were often radiolucent areas in the midportion of the callous. Postsurgery race records were examined for quantitative assessment of recovery.

3. Results

No fractures of the splint were found at surgery. The mean length of the splint exostosis was 4.01 cm. All exostoses were centered within the middle 1/3 of the splint bone. Seventeen of thirty horses (57%) raced after surgery. Eleven of 15 (73%) nonstarters raced after surgery. These horses had a mean of 9.4 starts with a mean of $16,229 in earnings and an average earnings per start of $1384. Six of 13 (46%) starters who had raced prior to surgery raced after...
surgery. The mean number of starts before surgery was 11.6 and after surgery was 7.3. The mean earnings before surgery was $36,548 and after surgery was $64,828. The average earnings per start was $4031 prior to surgery and $4806 after surgery.

4. Discussion
In horses that are refractory to other therapy for exostoses of the midportion of the splint bone, our hypothesis is that an exostosis in the midportion of the splint has difficulty stabilizing the splint. Biomechanically an attachment this low on the bone is easily disrupted with reapplication of load. Repeated disruption of the exostosis creates a painful non-union of the splint bone to the cannon bone. Surgical removal of the exostosis eliminates the non-union and the pain. The results were of very high quality in preservation of performance, and a high percentage of young horses raced. The older horses had more difficulty in achieving a return to racing, but when they returned it was a very high-quality return. The reasons for failure were not documented, and therefore the number of failures is overestimated because all horses not racing for any reason were counted as failures. Some horses were obviously lost to performance for other causes.

When other treatments fail to resolve a midsplint exostosis that is causing refractory lameness, surgical removal is an option to preserve athletic ability in more than half of the cases operated on.

References