
Ashley A. Magee, DVM and Nicholas J. Vatistas, BVSc, PhD

Standing myotomy of the affected muscle in horses with fibrotic myopathy gives satisfactory results. This procedure is not technically difficult and avoids the risks of general anesthesia and complications associated with more extensive procedures. Ninety-three percent of owners were satisfied with their horse's improvement in gait. Authors' address: Dept. of Veterinary Surgical and Radiological Sciences, University of California at Davis, Davis, CA 95616. © 1998 AAEP.

1. Introduction

Fibrotic myopathy is a gait abnormality of the hindlimbs of horses caused by fibrosis within the flexor muscles of the stifle, predominately the semitendinosus muscle.1–3 Affected horses have a characteristic abrupt shortening of the anterior phase of the stride and palpable fibrosis within the semitendinosus muscle. Although the condition is considered a mechanical lameness, owners and trainers report that the gait deficit causes a decrease in performance for many horses. Three different procedures have been described for the treatment of this condition: semitendinosus myotenectomy,1 semitendinosus tenotomy at the tibial insertion,2 and standing semitendinosus myotomy.3 The purpose of this study was to identify predisposing factors and assess the outcome of horses undergoing standing myotomy for fibrotic myopathy.

2. Materials and Methods

The medical records of 39 horses diagnosed with fibrotic myopathy and treated with standing semitendinosus myotomy at the Veterinary Medical Teaching Hospital at the University of California at Davis from 1989 to 1997 were reviewed. Age, breed, sex, limb affected, duration of clinical signs, preinjury use, and cause were recorded. All horses underwent transection of the fibrosed muscle under sedation and local anesthesia. The caudal thigh was clipped and prepped for aseptic surgery. A 2- to 4-cm vertical skin incision was made directly over the fibrosed semitendinosus muscle at the level of the stifle joint. Skin and subcutaneous tissues were separated from the fibrotic muscle belly by using blunt dissection. The affected muscle was transected with a blunt-tipped bistoury. The incision was either left open to heal by second intention, partially closed, or closed completely by using monofilament nonabsorbable suture. All horses started a controlled exercise program within 36 h of surgery. Perioperative factors such as closure of the wound, antibiotic regimen, and nonsteroidal administration were recorded. Owners or referring veterinarians were contacted for long-term follow-up. The initial
improvement in gait, healing time, complications, long-term improvement in gait, current use of the horse, and owner satisfaction with the procedure were determined. An analysis of the data included the determination of the mean percent of improvement in gait (stride length compared with the contralateral limb), mean healing time, recurrence rate, and complication rate. Patient factors such as age, breed, and sex were compared with the general hospital population by using hypothesis testing. Factors such as closure, postoperative complications, and use of antimicrobial therapy were compared with the long-term outcome by using analysis of variance and student’s t tests. Statistical significance was set at \( p < 0.05 \).

3. Results
Quarter Horses (26/39, 67%) and mares (27/39, 69%) were overrepresented compared with the hospital population. The average age of the horses was 11.8 years, which was older than the general hospital population. The cause of the lameness was associated with falling in nine (23%) of the horses, but in 18 (46%) horses the inciting cause for the lameness was unknown. Follow-up information was obtained for 32 horses by means of telephone conversations with owners or referring veterinarians. The mean follow-up interval was 34 months (range 2–86 months). Twenty-nine of the owners (93%) were satisfied with the outcome of the procedure. The mean initial improvement in gait was 75%, with ten horses (31%) achieving 100% improvement and 13 horses (40%) achieving 75% improvement. Complications were recorded for 12 horses (38%), with prolonged drainage from the healing incision (five horses) being the most common reason for seeking veterinary advice. Average wound healing time was 4.7 weeks, with no statistically significant difference in healing between surgical wounds left open, partially closed, or closed primarily. Although the antibiotic regimen varied among surgeons, the use of postoperative antimicrobial therapy did not have any significant effect on healing time.

Of the 29 horses with a long-term gait evaluation available, 24 (83%) horses were able to perform at their preinjury level of use at the time of long-term follow-up. Nineteen horses (66%) maintained their degree of initial improvement, with an average follow-up time of 27 months. Ten horses (34%) had some recurrence of the restricted gait. Of these, three horses (10%) had their gait in the affected limb return to the preoperative level of restriction.

4. Discussion
Standing myotomy of the affected muscle in horses with fibrotic myopathy gives satisfactory results, allowing most horses to achieve at least a 75% improvement in gait. The procedure is not technically difficult and can be performed in the standing horse. Most horses did not experience scar reformation to a significant extent. Owner satisfaction with this procedure was high, indicating that this procedure is a simple and effective means to improve limb function in horses affected with fibrotic myopathy.

References