Proximal Suspensory Desmitis—
A Qualitative Survey

R. Reynolds Cowles, Jr., DVM

Proximal suspensory desmitis ranks as a major cause of lameness in athletic horses. The diagnosis requires a comprehensive physical examination coupled with regional anesthesia, and sonographic and radiographic imaging. Rest is the primary treatment. Recurrence is common. Author address: Blue Ridge Equine Clinic, P.O. Box 278, Free Union, VA 22940. © 2000 AAEP.

Introduction
A qualitative survey was conducted of twenty-two practices in the United States to assess the incidence, treatment, and recurrence of proximal suspensory desmitis (PSD) in the athletic horse. PSD was defined as injury to the suspensory ligament from its origin to its bifurcation.

Materials and Methods
Twenty-two geographically diverse practices representing the majority of athletic horse activities were surveyed. These practices were picked for their emphasis on lameness diagnosis and their diversity of case load. The respondents represented 14,222 lameness examinations in 1999 with approximately one-third of these being on Thoroughbred race horses; one-third hunter, jumper, event, and dressage; and one-third western activities and trail horses. Standardbred practices surveyed did not respond.

Practitioners were asked to rank the following conditions in order of occurrence in their practices:

- Palmar heel lameness
- Foot lameness other than above
- Pastern
- Fetlock
- Suspensory branch
- Other (tendon & shin)
- Proximal suspensory
- Carpal
- Lame above carpus
- Hock
- Stifle

Results
The average rank for PSD was 5.5, behind

1. Palmar foot
2. Other foot
3. Hock
4. Fetlock

It was interesting that all respondents placed PSD in the middle group with those working on hunter, jumper, and dressage horses ranking PSD consistently higher than those working on western performance horses or eventers. Thoroughbred race horses mirrored the hunters and jumpers.

Presenting signs for forelimb PSD, a grade II/V lameness was usually seen, with III/V seen for hindlimb PSD. Most thought the lameness in front was low grade and often missed by trainers and riders. Lameness was most visible on a circle with the affected limb on the outside as previously reported by Dyson\(^1\) and others.\(^2\) Opinions varied as to whether they thought this was a cumulative injury or a one time event.

Diagnostic examinations were surveyed and all reported using palpation but many cautioned that most horses did not present with swelling and the normal withdrawal response to pressure in this area could easily be mistaken for a positive sign of inflammation. Participants were asked for their views on flexion tests. The majority reported a positive lower limb flexion test in the forelimb. All reported a positive “hock” flexion test in the rear limb. All felt that nerve blocks to localize the injury were advisable and over half indicated that they performed these blocks 100% of the time. Everyone used nerve blocks over 50% of the time. Not surprisingly, everyone depended on ultrasonographic exam to confirm the diagnosis and an average of 50% also radiographed the area. Thermography was commonly used and scintigraphy was used in 5–10% of cases.

The area most commonly affected in the forelimb was 6–18 cm distal to the accessory carpal bone.
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(Zone 1A–B) and 15–24 cm distal to the tuber calcis in the hind limb (Z1A–Z2A). It was felt that the most proximal avulsion injuries were the most painful both in lameness degree and on palpation.

Ultrasound assessment was made on size of the ligament, size of the lesion, and subjective assessment of echogenicity. Only one respondent computed the cross sectional diameter of the lesion and no one computed a score grade as proposed previously.3

Treatment

The primary treatment modality for acute injuries was rest. The time period varied from 30 days to 4 months. This varied by practice and not by the type of activity or area of the country. Most initially instituted a walking program, and increased the activity level based on evidence and healing ultrasonographically. Hind limb injuries were rested 4–6 months on average with some longer. The degree of lameness and ultrasonographic assessment dictated the length of rest in most cases.

Local injections of corticosteroids were used occasionally on the racetrack and frequently by those treating western horses. Those treating jumping horses did not report using steroids. Intra-lesional hyaluronic acid was advocated by a few.

Chronic proximal suspensory injuries were treated with less patience and rest and were more likely to be treated with corticosteroids and internal blisters. Injection of bone marrow was increasingly used. This pattern was the same for both fore and hind limbs. The surgeons in the survey were likely to split chronic and recurring lesions.

The exercise protocol for rehabilitation of PSD varied between the type of athletic horse being treated. Those treating hunters, jumpers, event horses, and western horses emphasized a slow build-up of walking under saddle for 2–4 weeks, trotting for 30 days, then resuming some canter work in the third month, depending on ultrasound findings and physical findings. The majority stated that they had the horse trotting for 30–45 minutes a day before resuming normal work. A number followed the protocol suggested by Gillis.4

Those treating Thoroughbred race horses emphasized the need to get the trainer to go slowly back to work as much as possible.

As most respondents felt that shoeing and foot problems played an important role in PSD, non-racing veterinarians addressed any foot balance problems and the majority used egg bar shoes for extended heel support. The racetrack practices addressed long toes–low heels or did not alter shoeing at all.

Participants were asked for the incidence of recurrence of this injury. The average was 20% for the front limb and 65% for the hind limb.

Participants were asked as to their opinions on cause of proximal suspensory desmitis. The one constant statement was “working too hard for the degree of fitness.” Surfaces and conformation were also thought to contribute. Immaturity in horses was mentioned as a major cause. Several mentioned the use of heel wedges as a cause. Nearly all felt that foot pain contributed to PSD due to abnormal strain placed on the suspensory ligament.

Prevention was also addressed. Adequate fitness for the level of exercise was considered the number one factor. Conformation analysis was considered number two, and appropriate shoeing was number three.

Discussion

From this limited survey, PSD ranks as a major cause of lameness of athletic horses, both on and off the racetrack. It is more easily detected in horses working on a circle; and regional anesthesia followed by ultrasonographic imaging and radiographs are essential in the diagnosis. Treatment consists primarily of rest and controlled exercise with more recent modalities now being applied. Cause and prevention seems to be based on good foot care and adequate fitness for the level of exercise regardless of type of use.

All types of athletic horses experience PSD with western horses reporting the lowest ranking. Racetrack practioners from Maryland, Florida, and California reported widely varied incidence with Florida reporting a much lower number of cases.

This qualitative survey indicates the need for further research as to cause, prevention, and treatment of this important cause of lameness.

References


