Return to Racing Post Axial Sesamoiditis in a 3-year-old Thoroughbred

Jock F. Crosbie Goold BSc, BSc(Vet-Bio), DVM, Thomas A. Dolan BAgSc, BVMS, Wei Y. Lee BSc, DVM, Brian H. Anderson BVSc, MS, MVSc, DACVS, Massimo M. Delli-Rocili DVM, DVSc, DACVS

Ballarat Veterinary Practice Equine Clinic, Miners Rest VIC 3352

CASE PRESENTATION

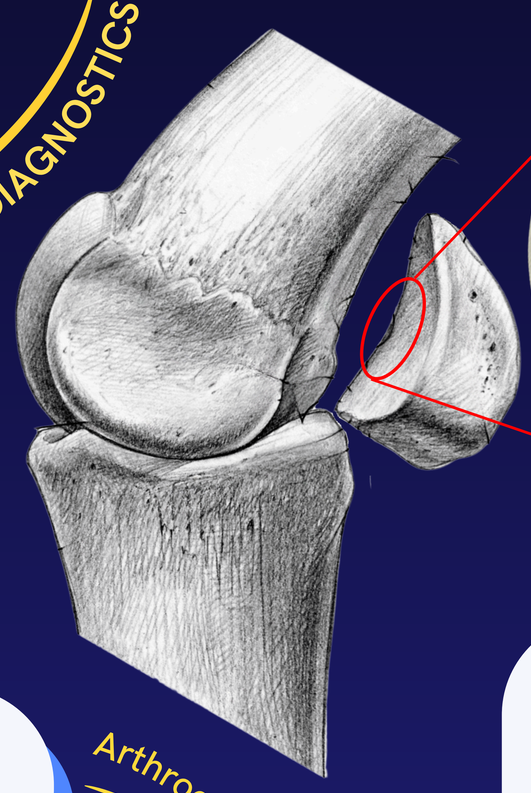
A 3-year-old gelding Thoroughbred racehorse had a history of intermittent 1/5 left hind (LH) lameness referrable to the fetlock joint. The joint was treated with intra-articular corticosteroids and then the horse spelled. On return from spelling the horse was found to be 3/5 lame and the LH fetlock markedly effused.

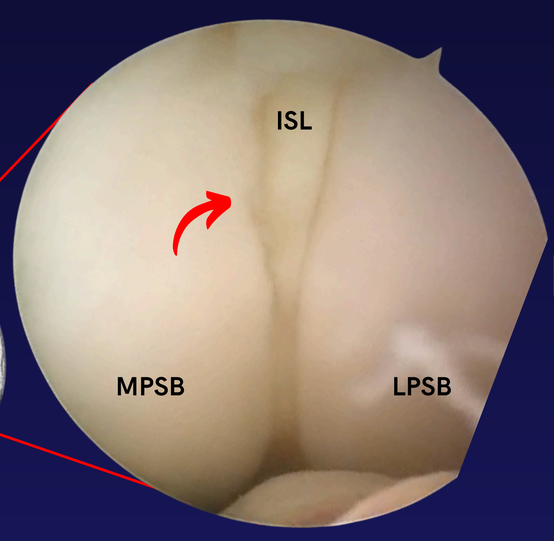
ARTHROSCOPIC DEBRIDEMENT

- Under general anaesthesia arthroscopic examination of the fetlock and debridement via a plantar approach was performed
- The lesion was identified on the most axial portion of the MPSB
- The defect collapsed with minimal resistance when initially probed
- The necrotic region of bone was debrided until healthy bleeding subchondral bone was evident

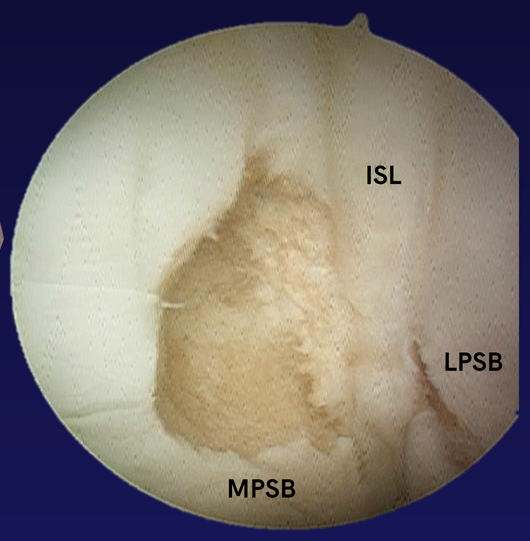
DIAGNOSTICS

X-ray





BEFORE

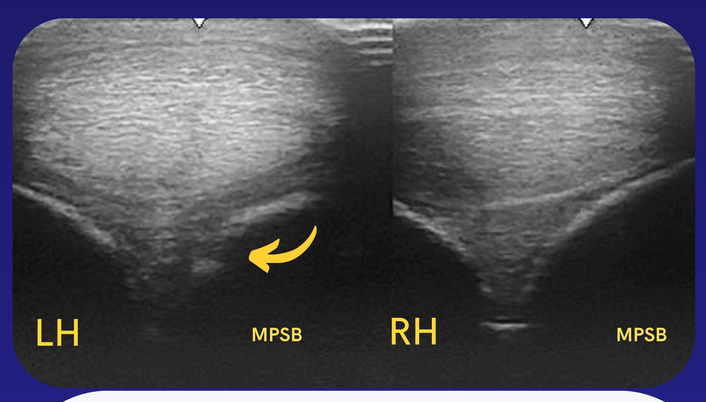


AFTER

One week later radiographs demonstrated an axial lucency of the medial proximal sesamoid bone (MPSB).

Arthrocentesis

Ultrasound



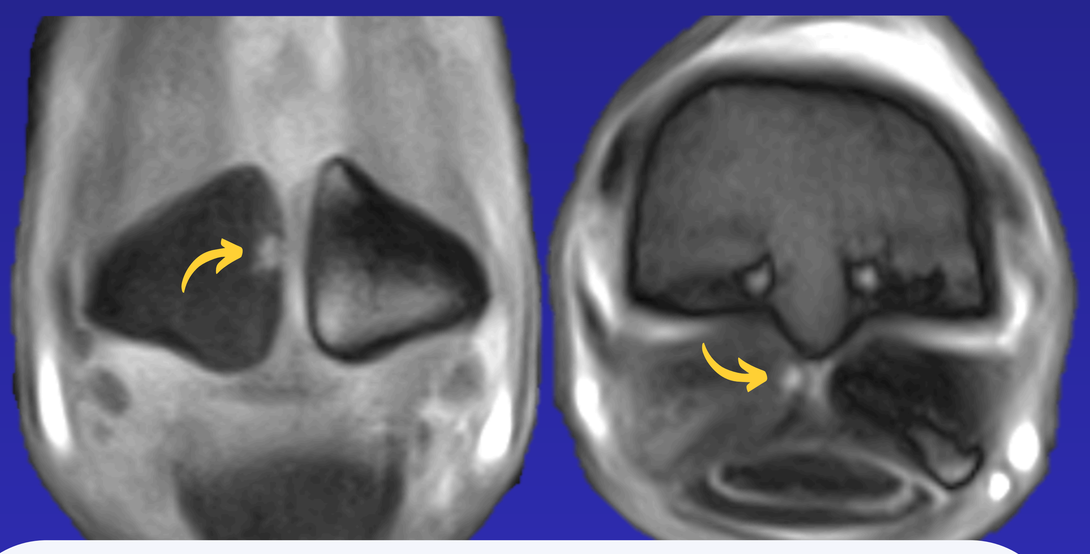
Total protein = 28 g/L
NCC* = 6200 x 10^6/L

Septic — Aseptic

*nucleated cell count

Ultrasound identified disruption of the LH intersesamoidean ligament (ISL) insertion onto the axial MPSB.

Low field MRI



Focal lytic lesion within the axial margin and diffuse inflammation throughout the MPSB. MRI confirmed **axial sesamoiditis** as the source of LH lameness.

REHABILITATION

Time Post-op	Protocol
0-7 weeks	• Box-rest + tapered phenylbutazone • IRAP course (injected @ 3, 5 & 7 weeks)
3 months	• Sound, negative on flexion, minimal effusion • Start slow treadmill work
6 months	• Sound at trot, inject polyacrylamide gel • Increase work load
8 months	• First trial • ***Successful return to racing***

DISCUSSION

Axial sesamoiditis (AS) or osteitis is a rare pathology of the PSBs. The pathogenesis is incompletely understood and the condition is associated with a poor to grave prognosis. It appears most cases are a result of injury to the ISL and present as lytic bone lesions of the axial PSB in the apical to mid-body region with varying levels of joint effusion (Le Roux & Carstens, 2018). AS may present as septic or non-septic with vascular, infectious or traumatic aetiologies. A traumatic example includes hyperextension of the fetlock that inflicts excessive stresses to the ISL leading to avulsion of the axial margin of the PSB. Another suspected cause is disruption to the vasculature of the axial portion of the PSB which may lead to osteoresorption and subsequent avascular osteonecrosis (Le Roux & Carstens, 2018; Vanderperren et al., 2014).

A study by Vanderperren et al. (2014) compared the findings of different diagnostic modalities for nonseptic AS. This found radiographs underestimated the extent of lesions and should be used in conjunction with ultrasound if advanced imaging options are unavailable. Ultrasound is effective in confirming disruption of the axial surface of the PSB at the insertion of the ISL and subsequent ISL desmitis. In our case, low field MRI provided further information on the extent of the lesion within the sesamoid and allowed for appropriate surgical planning.

In regard to treatment, a study by Dabareiner et al. (2001) showed that horses that underwent arthroscopic debridement of non-septic lesions can return to their previous level of performance.

CLINICAL RELEVANCE

In this case, advanced diagnostic imaging, establishment of asepsis, undertaking arthroscopic debridement and appropriate rehabilitation with adjunct orthopaedic therapy allowed for a successful outcome of a condition that can carry a grave prognosis.

REFERENCES

1. Dabareiner R, Watkins J, Carter G, Honnas CM & Eastman T. Osteitis of the axial border of the proximal sesamoid bones in horses: eight cases (1993-1999). J Am Vet Med Assoc. 2001 Jul 1;219(1):82-6.
2. Le Roux, C & Carstens, A. Axial sesamoiditis in the horse: A review. J S Afr Vet Assoc. 2018 29;89(0).
3. Illustration: McIlwraith, W, Nixon, A & Wright I. Diagnostic and Surgical Arthroscopy in the Horse (Fourth Edition), Mosby, 2015, 111-174.
4. Vanderperren, K, Bergman, H, Spoormakers, T, Pille, F, Duchateau, L, Puchalski, S & Saunders, J. (2014), Nonseptic osteitis of the axial border of the proximal sesamoid bones. Equine Vet J, 46: 463-467.