Clinical Application of a Transcoronal Technique for Translesional Screw Placement to Treat an Osseous Cyst-like Lesion in a Young Thoroughbred

EQUINE VETERINARIANS AUSTRALIA

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BACKGROUND

Osseous cyst-like lesions (OCLLs) of the distal phalanx are a recognised cause of foot lameness in horses. Conservative and medical management of OCLLs is associated with variable outcomes and may not result in sustained clinical improvement.

Transcoronal screw fixation has recently been described as a hoof wall–sparing surgical technique for the treatment of P3 OCLLs.

CASE DESCRIPTION

22-month-old Thoroughbred filly.

Grade 3/5 left hindlimb lameness localised to the foot via plantar digital nerve block.

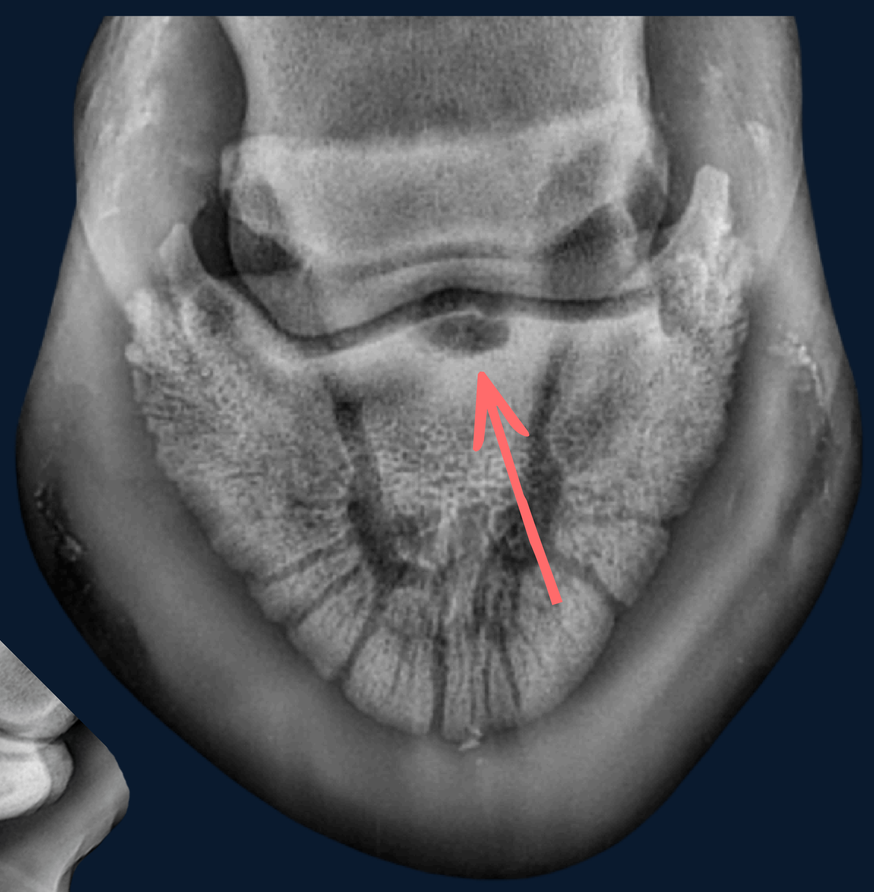
Radiographs identified a **7.5 × 9.5 mm** OCLL within the proximal articular surface of P3.

Conservative management, including intra-articular triamcinolone, was unsuccessful.

Nine weeks following diagnosis, lesion progressed to **12.2 × 14.4 mm** with worsening lameness (4/5), prompting surgery.

INITIAL RADIOGRAPHS

BAIN FALLON 2026



CLINICAL QUESTION

How can this lesion be treated while preserving hoof capsule integrity and athletic function?

CADAVERIC EVIDENCE

Frietman and colleagues (2024) described a hoof wall–sparing transcoronal technique for the treatment of distal phalanx osseous cyst-like lesions in 10 cadaver limbs, demonstrating the technical feasibility of the procedure.

SURGICAL TECHNIQUE

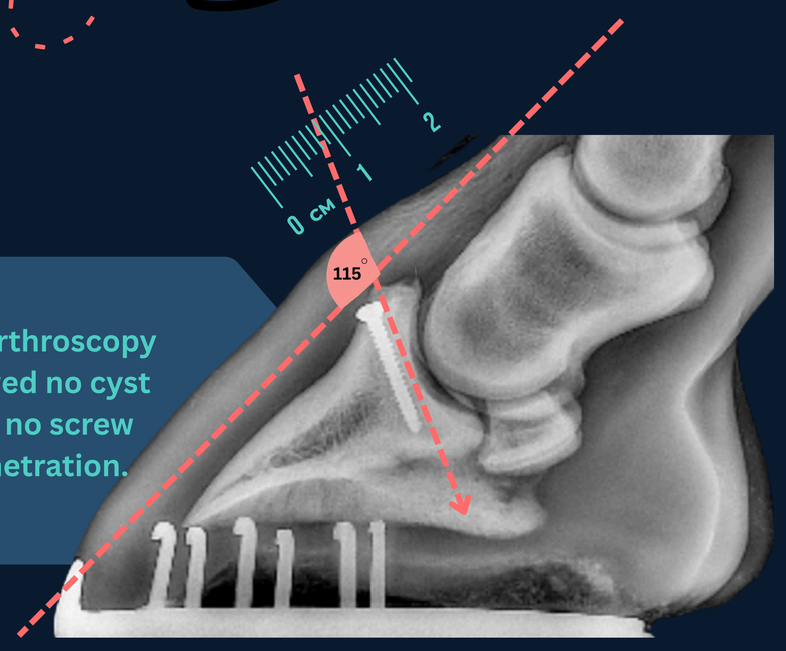
A 20-gauge needle was placed in the extensor process, 5 mm proximal to the coronary band, to guide K-wire and drill placement.

A drill tract was created to a depth of 30 mm and trajectory angle of 115°.

3.5 × 28 mm cortical screw placed in neutral position.

DIP joint arthroscopy assessed cyst communication with the joint. No articular screw penetration was identified.

DIP arthroscopy showed no cyst and no screw penetration.



CLINICAL OUTCOME

The filly was maintained on box rest for 4 weeks and was sound at the trot after transition to a small yard (4 weeks postoperatively). She remained sound throughout rehabilitation and at the final follow-up, 40 weeks after surgery. Follow-up radiographs obtained at 16 and 36 weeks demonstrated progressive remodelling of the lesion demonstrated by increased bone density within the cyst.

CLINICAL RELEVANCE

Distal phalanx osseous cyst-like lesions (OCLLs) are a recognised cause of persistent foot lameness and may be refractory to conservative treatment, particularly when associated with cartilage damage or communication with the distal interphalangeal (DIP) joint (Verschooten & De Moor, 1982; Smith et al., 2005).

Hoof wall–sparing transcoronal screw fixation has recently been described for treatment of arthroscopically inaccessible lesions, avoiding hoof capsule disruption (Frietman et al., 2024).

While the published cadaveric technique utilised a drilling angle of 130–135°; a shallower angle of 115° was successfully employed in this case based on lesion location and preoperative planning.

Resolution of lameness, progressive radiographic remodelling, and return to athletic function suggest this minimally invasive approach may be a viable treatment option in selected cases.

36-week postoperative radiograph.