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Multi-Modality Imaging of Aggressive Hoof Wall Neoplasia in Two Horses

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Abstract : Aggressive neoplasia of the hoof is a rare occurrence in horses and has been only sporadically described in the literature. In the few cases reported intra-hoof wall, aggressive neoplasia has been documented radiographically and has been described with variable imaging characteristics. These include a well-defined osteolytic area, a smoothly outlined semi-circular defect, an extensive draining tract beneath the hoof wall, as well as an additional large area of osteolysis or an extensive central lytic region. A 20-year-old Quarterhorse gelding and a 10-year-old Thoroughbred gelding were both presented for chronic reoccurring lameness in the left forelimb and left hindlimb, respectively. Both of the cases displayed radiographic lesions that have been previously described but also displayed osteoproliferative expansile regions of additional bone formation. Changes associated with hoof neoplasia are often non-specific due to the nature and capacity of bone to react to pathological insult, which is either to proliferate or be absorbed. Both cases depict and describe imaging findings seen on radiography, contrast radiography, computed tomography, and magnetic resonance imaging before reaching a histological diagnosis of malignant melanoma and squamous cell carcinoma. Although aggressive hoof wall neoplasia is rare, there are some imaging features which may raise our index of suspicion for an aggressive hoof wall lesion. This case report documents two horses with similar imaging findings who underwent multiple assessments, surgical interventions, and imaging modalities with a final diagnosis of malignant neoplasia.

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