

computed Tomographic Characteristics Of Greyhound Central Tarsal Bone Fractures

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Central tarsal bone (CTB) fractures are one of the most common injuries sustained by the racing greyhound. Previous studies characterising these fractures using orthogonal radiography have reported the majority to be simple reconstructible slab fractures.^{1,2,3} In this study, we aimed to characterise CTB fractures and associated tarsal fractures using the more sensitive modality of computed tomography (CT).

Data were analysed from 66 client owned racing and ex-racing greyhounds (67 limbs) presenting for CTB fracture between 2017 and 2024. CTB fractures were categorised using a previously described grading scheme,¹ and any concurrent tarsal injuries were recorded. The sensitivity, specificity, and predictive values of concomitant tarsal injuries for severe comminution were calculated from a contingency table, and confidence intervals for these values were calculated with the Clopper-Pearson Exact test.

88.1% of CTB fractures (59/67 limbs) were highly comminuted and non reconstructible. The most common concomitant tarsal injuries were fractures of the fourth tarsal bone (30/67 limbs), fractures of the calcaneus (25/67 limbs), and proximal intertarsal instability (6/67 limbs). The presence of concomitant tarsal injury was a near perfect predictor for severe CTB comminution within this cohort of dogs (PPV = 98.1%, 95% CI: 89.1 – 99.7%).

In conclusion, CT reveals a substantially higher number of highly comminuted fractures than reported in prior studies, which likely underestimate CTB comminution due to reliance on the lower sensitivity modality of radiography. Concurrent injury to other tarsal structures is a common finding, and is an accurate predictor of severe comminution of the CTB.

References

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Declarations:

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Not applicable