

Morphometric and Radiographic Studies on the Tarsal Bones of Adult Chinkara (*Gazella bennettii*)

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Abstract : The present study was carried out on the gross anatomy, biometry and radiographic analysis of tarsal bones in twenty specimens of adult chinkara (*Gazella bennettii*). The desired bones were collected from the graveyards present in the locality of the different safari parks and zoos in Pakistan. To observe the edges and articulations between the bones, the radiographic images were acquired in craniocaudals and mediolateral views of the intact limbs. The gross and radiographic studies of the tarsus of adult Chinkara were carried out in University of Veterinary and Animal Sciences, Lahore, Pakistan. The tarsus of chinkara comprised of five bones both grossly and radiographically, settled in three transverse rows: tibial and fibular tarsal in the proximal, central and fourth fused tarsal in the middle row, the first, second and third fused tarsal in the distal row. The fibular tarsal was the largest and longest bone of the hock, situated on the lateral side and had a bulbous tuber calcis 'point of the hock' at the proximal extremity which projects upward and backward. The average maximum height and breadth for fibular tarsal was 5.61 ± 0.23 cm and 2.06 ± 0.13 cm, respectively. The tibial tarsal bones were the 2nd largest bone of the proximal row and lie on the medial side of the tarsus bears trochlea at either end. The average maximum height and breadth for tibial tarsal was 2.79 ± 0.05 cm and 1.74 ± 0.01 cm, respectively. The central and the fourth tarsals were fused to form a large bone which extends across the entire width of the tarsus and articulates with all bones of the tarsus. A nutrient foramen was present in the center of the non auricular area, more prominent on the ventral surface. The average maximum height and breadth for central and fourth fused tarsal was 1.51 ± 0.13 cm and 2.08 ± 0.07 cm, respectively. The first tarsal was a quadrilateral piece of bone placed on the poteriomedial surface of the hock. The greatest length and maximum breadth of the first tarsal was 0.94 ± 0.01 cm and 1.01 ± 0.01 cm, respectively. The second and third fused tarsal bone resembles the central but was smaller and triangular in outline. It was situated between the central above and the large metatarsal bone below. The greatest length and maximum breadth of second and third fused tarsal was 0.98 ± 0.01 cm and 1.49 ± 0.01 cm.

Keywords : chinkara, morphometry, radiography, tarsal bone

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