

Gross and Clinical Anatomy of the Skull of Adult Chinkara, *Gazella bennettii*

Authors : Salahud Din, Saima Masood, Hafsa Zaneb, Habib Ur Rehman, Saima Ashraf, Imad Khan, Muqader Shah

Abstract : The objective of this study was (1) to study gross morphological, osteometric and clinical important landmarks in the skull of adult Chinkara to obtain baseline data and (2) to study sexual dimorphism in male and female adult Chinkara through osteometry. For this purpose, after performing postmortem examination, the carcass of adult Chinkara of known sex and age was buried in the locality of the Manglot Wildlife Park and Ungulate Breeding Centre, Nizampur, Pakistan; after a specific period of time, the bones were unearthed. Gross morphological features and various osteometric parameters of the skull were studied in the University of Veterinary and Animal Sciences, Lahore, Pakistan. The shape of the Chinkara skull was elongated and had thirty-two bones. The skull was comprised of the cranial and the facial part. The facial region of the skull was formed by maxilla, incisive, palatine, vomer, pterygoid, frontal, parietal, nasal, incisive, turbinates, mandible and hyoid apparatus. The bony region of the cranium of Chinkara was comprised of occipital, ethmoid, sphenoid, interparietal, parietal, temporal, and frontal bone. The foramina identified in the facial region of the skull of Chinkara were infraorbital, supraorbital foramen, lacrimal, sphenopalatine, maxillary and caudal palatine foramina. The foramina of the cranium of the skull of the Chinkara were the internal acoustic meatus, external acoustic meatus, hypoglossal canal, transverse canal, sphenorbital fissure, carotid canal, foramen magnum, stylomastoid foramen, foramen rotundum, foramen ovale and jugular foramen, and the rostral and the caudal foramina that formed the pterygoid canal. The measured craniometric parameters did not show statistically significant differences ($p > 0.05$) between male and female adult Chinkara except Palatine bone, OI, DO, IOCDE, OCT, ICW, IPCW, and PCPL were significantly higher ($p > 0.05$) in male than female Chinkara and mean values of the mandibular parameters except b and h were significantly ($p < 0.5$) higher in male Chinkara than female Chinkara. Sexual dimorphism exists in some of the orbital and foramen magnum parameters, while high levels of sexual dimorphism identified in mandible. In conclusion, morphocraniometric studies of Chinkara skull made it possible to identify species-specific skull and use clinical measurements during practical application.

Keywords : Chinkara, skull, morphology, morphometrics, sexual dimorphism

Conference Title : ICABB 2019 : International Conference on Animal Bioscience and Biology

Conference Location : Vienna, Austria

Conference Dates : June 20-21, 2019