COSTAL CARTILAGE FRACTURES AMONG ARTIODACTYLES AND PERISSODACTYLES

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Abstract. In artiodactyles and perissodactyles the interior of the costal cartilages ossify, forming a spongy, osseous tissue. Recently, it has been discovered that such ossifications frequently display visible lines perpendicular to the curvature of the ossification. Such lines are not rare, and often several lines along the same costal cartilage are observed. Macerated ossified costal cartilages frequently, but not always, split into short, bony stabs with straight, cutoff ends, sometimes retaining organic matter encircled within a bony periphery. In archaeological materials such bony stabs are occasionally observed, and are just denoted "costal cartilages" if recognized. The cause of these structures is not clear. Some may be regarded as transverse splits of the ossifications along a weakness zone, but in other cases the cause is obviously a fracture with more or less extensive callus formation. The smooth surfaces are typical and cannot be confused with a secondary fracture, which occur after deposition or maceration. The smooth ends of a healed fracture always display a thin layer of compact tissue, while a secondary fracture is irregular and displays the spongy tissue. Thus, they may be considered as healed micro or macro fractures, where fusion of the fractured ends had occurred along the periphery of the ossification. In other cases, however, healing may involve dislocation prior to the healing process, extensive callus formation, lipping or formation of pseudoarthroses. How such an injury affected the animal is not generally known. However, in the cases of dislocation and extensive bony reaction to the fracture, it is highly probable that the wellbeing of the animal was influenced by the injury.

Key words: ossified costal cartilage, ossa sternocostalia, fractures, perissodactyles, artiodactyles.