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Program Track 13

The structure of cartilage canals in the laryngeal cartilages of the Delphinidae family (A&P 5)

 Tue, November 12

 Pavilion 1&2

 Poster Session

Part of:

Anatomy & Physiology

Info

Abstract:

Cartilage canals are vascular canals commonly described in bone during embryonic development. These structures play an essential function in the ossification of the bone. However, the presence of the cartilage canals in permanent cartilage is uncommon. This current study aims to describe the existence of cartilage canals in laryngeal cartilages of different species of the Delphinidae family. Nine stranded animals belonging to three different species [common dolphin (*Delphinus delphis*), striped dolphin (*Stenella coeruleoalba*) and bottlenose dolphin (*Tursiops truncatus*)] from the Delphinidae family were used for this study. After a standardized necropsy, the larynxes were collected. Some samples of the different cartilages were then routinely processed, embedded in paraffin, serially sectioned and stained with hematoxylin and eosin (HE), periodic acid-Schiff (PAS) and phosphotungstic acid hematoxylin (PTAH) staining. The cartilage canals were located at multiple sites and confined to the laryngeal cartilage's peripheral region. Histologically, these round-shaped structures consisted of blood vessels as well as nervous tissue and perivascular cells, some of which secrete cartilage matrix and transform into chondrocytes. Thus, cartilage canals aim to provide the cartilage with chondrogenic potential cells to participate in cartilage growth. In the present study, these structures are more likely to be observed in number in several newborn and calf cetaceans. Additionally, it was observed that the more mature the individual, the less of these structures were detected.

Keywords:

Anatomy, Morphology, Odontocete

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