

## المميزات المورفولوجية الخاصة بالعظم اللامي للجمل وحيد السنم

م • الشايب • ز • زيدان

لقد تم الوصف التفصيلي المورفولوجي للعظم اللامي للجمل وحيد السنم ، وقد قورن  
بمثيله في الحيوانات المستأنسة الأخرى •

ولقد ثبت في هذا البحث أن العظم اللامي في الجمل وحيد السنم لا يحتوي على النتوء  
اللصاني • كما انه وجد أن الجزء فوق اللامي في الجمال يكون طويل ويشبه الجزء الدرقي  
اللامى الى حد كبير مع بعض الفروقات •

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SPECIAL MORPHOLOGICAL FEATURES OF THE  
HYOID BONE OF CAMELUS DROMEDARIUS  
( With One Figures )

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SUMMARY

The hyoid bone of the camel is described morphologically in details and compared with those of other domesticated animals. It is evident in this investigation that there is no lingual process in the hyoid bone of the camel. The epihyoids of the camel are long and resemble the thyrohyoids.

INTRODUCTION

The anatomical features of the hyoid bone of most domesticated animals were studied fully by many authors Mc FEDYEAN (1953), AKAEVSKI (1968) and GETTY, (1975). However the available literature lacks data on the camel except the very brief general description given by LESBRE (1903) and LEESE (1927).

As the hyoid bone plays an important role in supporting the pharynx, larynx and root of the tongue, so the present investigation is carried out to get a detailed description on the anatomical characteristic features of the hyoid bone of the camel and its differences from other domesticated animals.



MATERIALS AND METHODS

The hyoid bones were obtained from ten heads of adult camels (*Camelus dromedarius*) of different sex and age. These materials were treated by the usual methods for the preparation of bones then they were subject to careful morphological examination. The nomenclature used in this work was based in the N. A. V. (1973).

RESULTS AND DISCUSSIONS

The hyoid bone of the camel is found to consist of the single basihoid and paired thyrohyoid, ceratohyoid, epihyoid and stylohyoid.

Basihyoideum:

The basihyoid (1/1) is small and short, it is diamond in shape and flattened dorsoventrally. From before backward it measures 2 cm. and from side to side it measures 2.5 cm. Its rostral border carries two small slightly convex facets, each of which faces rostrolaterally for articulation with the ceratohyoid. The caudal border bears two large concave facets which are very close to each other and each one faces caudolaterally for articulation with the enlarged rostral end of the thyrohyoid. It is observed that the basihyoid of the camel presents no lingual process, a case which is similar to that of the dog but the basihyoid is in the form of a slightly curved transverse rod Mc FADYEAN (1953), HARE (1958), BRADLEY and GRAHAME (1959), MILLER, CHRISTENSEN and EVANS (1964) and GETTY (1975). While in the sheep a short lingual process is situated



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centrally on the rostral side of the basihyoid. The latter is short and flattened MAY (1970) and GETTY (1975). In the pig the basihyoid is broad rostrocaudally and short transversely and bears on its ventral aspect a very, short, pointed lingual process while in the ox the lingual process is short and tuberculous, in the horse the basihyoid is a short transverse bar and presents the lingual process Mc FADYEAN(1953):and GETTY(1975).

### Thyrohyoideum:

Each thyrohyoid (1/3) measures 8-8.5 cm. in length. It extends caudal and slightly dorsal from the concave facet, which is found on the caudal border of the basihyoid, where it is firmly attached to it by cartilage. The rostral end of each thyrohyoid is enlarged and triangular in shape, it is situated very close to its fellow of the opposite side. It presents a curve the convexity being laterally and is marked at its middle. The caudal end of each thyrohyoid presents small short cartilage which is connected with the rostral cornu of the thyroid cartilage of the larynx. The caudal ends of the thyrohyoids are widely separated from each other. In the horse the thyrohyoids extend from the lateral parts of the basihyoid, while in the sheep, they are not firmly attached to the basihyoid. In the dog as in the camel they are permanently attached to the basihyoid by cartilage, in the pig the thyrohyoids are wide and curved, concave and grooved dorsally with their ends are attached to the thyroid cartilage of the larynx by rather long bars of cartilage Mc FADYEAN (1953) and GETTY (1975).

### Ceratohyoideum:

Each ceratohyoid (1/2) of the camel is found to be in the form of short rod which is slightly flattened dorsoventrally

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and is directed rostral and slightly dorsal from the rostral border of the basihyoid. It is attached to the latter by small bar of cartilage. The length of the ceratohyoid is 3-3.5 cm., its rostro-dorsal extremity articulates with the epihyoid. In the horse the ceratohyoids are short rods and is somewhat constricted in its middle part and has slightly enlarged ends, the dorsal end articulates with the stylohyoid or with the epihyoid when present. In the ox the ceratohyoids are large as the epihyoids. While in the pig they are short, wide and flattened dorsoventrally. In the dog the ceratohyoids are short, prismatic and strong Mc FADYEAN (1953) and GETTY (1975).

Epihyoideum:

The epihyoid (1/4) are almost as large as the thyrohyoids. They are somewhat similar the thyrohyoids in shape but much less curved. Each measures 8-8.5 cm. in length as it is the case in the thyrohyoid and it is directed caudodorsally. The enlarged extremities are caudo-dorsally directed where they articulate by large peices of cartilages with the stylohyoids. The rostral extremities are small and articulate by small peices of cartilages with the ceratohyoids. They are narrow and flattened laterally in the middle. In the horse the epihyoids are small, wedge shaped peices or nodules interposed between the ceratohyoids and stylohyoids. They are usually transitory and unite with the stylohyoids in the adult. While in ovines the ceratohyoid and epihyoid are small rounded bones. In the dog the epihyoids are commonly a little longer than stylohyoids, they are compressed laterally and are slightly enlarged at the ends, which are joined by cartilage to the adjacent cornua. In epihyoid of the pig is a little longer



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than the ceratohyoid, but is relatively slender, it is largely cartilaginous in the young subject and does not ossify at either end Mc FADYEAN (1953) and GETTY (1975).

### Stylohoideum:

The stylohyoids (1/5) are the largest parts of the bone. They directed dorsally and slightly rostrally. Each one is flattened laterally and the borders are thin. The rostral border is convex while the caudal one is concave. Each stylohyoid is slightly curved in its length so that the lateral surface is slightly concave and the medial one is slightly convex. Each one measures 11.5-12 cm in length. The dorsal extremity presents two angles, the rostral or articular angle is somewhat thick and is connected by a rod of cartilage (tympanohyoideum) with the styloid process of the petrous part of the temporal bone. The other angle is the caudal angle, muscular angle (angulus stylohyoideus) it is rounded, and thinner than the rostral one with slight curve laterally and is roughened for muscular attachment. The ventral extremity is small and articulates by a bar of cartilage with the epihyoid. The lateral surface of each stylohyoid presents a groove on its upper half close to the caudal border. The stylohyoids of the camel resemble more or less that of the horse but less in length where in the horse each one measures 18-20 cm in length and its ventral end articulates with the ceratohyoid. In the ox the stylohyoids are narrow except at the ends, the dorsal end divides into two branches which correspond to the two angles of the horse. While in ovines each stylohyoid is elongated flattened and about 6cm. in length, its caudal end bifurcates. In the dog the stylohyoids are bent lateral and are somewhat



twisted. In the pig the stylohyoid is a very slender rod, slightly enlarged at either end Mc FADYEAN (1953) and GETTY (1975).

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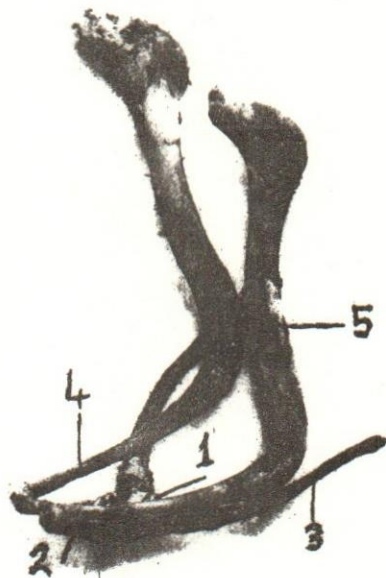


Fig. (1)

The hyoid bone of the camel, (Lateral view)

1. Basihyoideum.

2. Ceratohyoideum

3. Thyrohyoideum.

4. Epihyoideum.

5. Stylohyoideum.