

ANATOMICAL DESCRIPTION OF ORBITAL REGION IN ONE HUMPED CAMEL (*camelusdramadarius*)

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ABSTRACT

This work is important for the demonstration the orbital region as far as the fine anatomical description site of view which have a great important for veterinarian surgeon who work s in the field of eye surgery.

In this study we use six skulls of adult camels of each sex and by mean of fine topographical and gross anatomical description of the orbital bone and foraminae, they revealed that, the supraorbital foramina was absent at the skull of one humped camel, with the presence of super facial fissure which engaged with semi foramina for transmission of supra orbital nerve.

INTRODUCTION

The orbital cavity which present in the skulls of vertebrate animals have been performed by adjustment of different skull bones process in a manner that form a cavity separate the eye ball from other skull compartment in addition to protectional properties for the delicate visual organ.(1, 2).

There are many foraminae present in the orbital cavity for the transmission of many nerves and blood vessel (arteries, veins and lymphatic vessel) these foraminae are differ in number and size in different animals species and even in the same animal species in different ages that is why many foraminae may be disappear or fuse to form one foramina and vies versa (3,4).The orbital region located in the lateral aspect of the skull in most domestic animals and contain the most important sense organ of vision this region has been represent by the extension of the temporal fossa and zygomatic region and protrud to the lateral aspect of the skull (5, 6, 7).

The orbital region is differ in different domestic animals such as bovine, equine and caprine they have three processes, the orbital ridge is comprise from the junction of frontal process of zygomatic bone and zygomatic process of frontal bone and zygomatic process of temporal bone, the names of these processes have been obtained from the direction and origin of the process (2, 6, 8).Generally the topographic situation of the orbital region adapted with the nature of the life of one humped camels (*camelusdromadarius*) in the desert (1, 3, 4).

The orbital region is a very important region due to that many important cranial nerves like trochlear, abducent and branches of trigeminal nerves like maxillary and ophthalmic nerve have been transmitted through them (1, 6,8).

In addition to the main duty of the orbital cavity in protection of the eye ball from external environment the haversian layer of the orbital bones are important for the insertion of the muscle of the eye which play a great role in the movement of the eye ball in different direction.(7,9)

The aim of this research is to focusing (demonstration and illustration) of this important orbital region as far as the gross anatomical its of view.

MATERIALS AND METHODS

For this work (12) skulls of adult camels had been used of them (6) male and (6) female aged about (4-6) years old, the maceration process had been performed for the skulls mention above by sinking the skulls in water present in (eight) feet square aluminum container, the water change every (3) days without any additive material for one week after that KOH 40% was added and left for one week then the specimens were washed with tap water to remove the macerated tissue and depress using metal and plastic brush, the specimens then return to the same container containing water with KOH 20% concentration for (4) days, then the macerated tissue and depress has been removed as the same procedure mentioned before to complete cleaning of the skull bone while the brain was removed by using surgical curette and forced water under high pressure to get rid of whole brain tissue then the specimens were subjected to direct sun light for (3) days at July. Finally dipat any organic solvent such as benzene to cleaned from adipose tissue.

The blasting of specimens were performed by using Clorox (ether glycol, sodium silicate, potassium hydroxide) then it washed with rancid water and soft brush then the study has been performed.

RESULTS AND DISCUSSIONS

The most important result of this study appear that the orbit in one humped camel (*camelus dromadarius*) characterized by protrusion rim of the orbit which is semicircular and represent irregular edges (Fig.1).

The surface of lacrimal bone has a clear depression for location of lacrimal sac. Which is the part of the nasolacrimal apparatus (Fig.1).

The orbital socket comprise from the junction of following cranial bone frontal, lacrimal, zygomatic, pterygoid, palatine, nasal and temporal bone (Fig.1), from the other hand the research revealed that the supra orbital foramina was absent and represent instead of that dorsolaterally by superficial fissure which engaged with semi foramina for transmission of the supra orbital nerve (Fig.2).

The study revealed that the orbital ridge comprise from the junction of zygomatic process of frontal bone and zygomatic process of temporal bone, these two processes connected with frontal process of zygomatic bone (Fig.3).

The orbital cavity have the following foraminae, optic foramina for transmission of optic nerve, ethmoid foramina for transmission of ethmoid nerve, round and alar foraminae united to form one foramina (Fig.4).

The topographic situation (description) of orbital region characterized by that the rim of the orbit in one humped camel has been protruded latterly, these fact is one of the most characteristic feature of the life of the camel in the desert (8).

The rim of the orbital region in one humped camel has a peculiar shape and there is no supra orbital foramina represented in this site but there is a fissure like structure instead of that While in equine, bovine, ovine, caprine, showing rounded supra orbital foramina (5, 7, 9, 11)

The ridge of orbital region in one humped camel has the same anatomical structure as in cows, horse, sheep, goat and donkey (7, 10) but this ridge absent in canine and feline, but represent orbital ligament instead of that (12). The bones of the orbital region in one humped camel are the same as in other domestic animals (11,8).

This research revealed that the difference in the number and united foraminae these result not present in other domestic animal like horse, cows, sheep and goat (2,8).

The presence of lacrimal depression of lacrimal bone which described in this research agreed with the results mentioned by (6, 7,13) in other domestic animals.

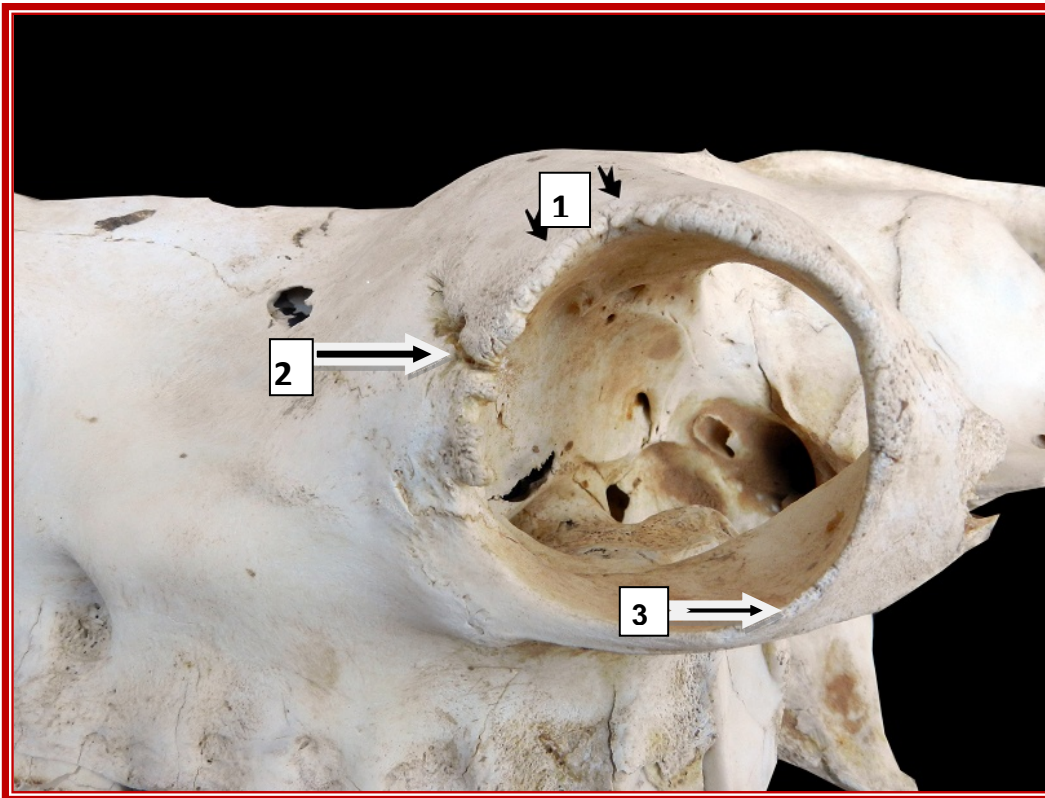


Fig.1:Skull of one humped camel showing:
Irregular edge of the rim of the orbit.2.Depression for location of lacrimal sac.3. Orbital socket the arrow



Fig.2:Lateral view of skull of one humped camel showing the absence of supra orbital foramen, arrow

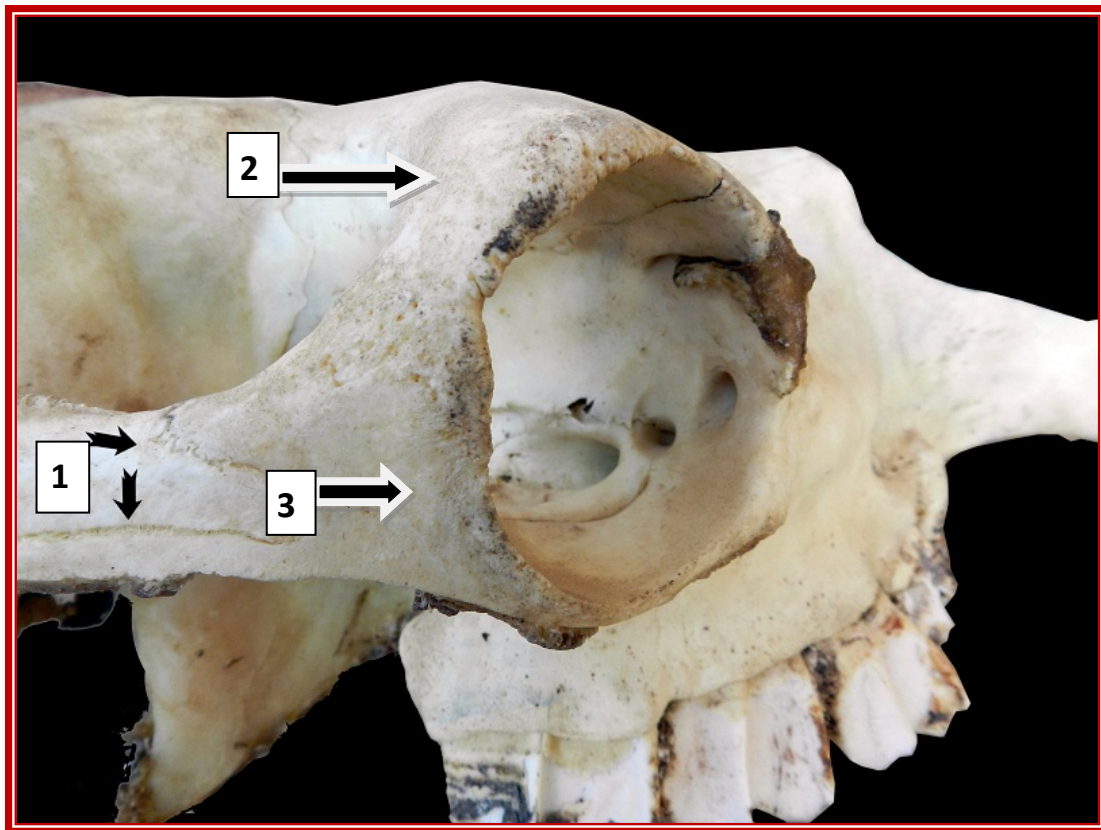


Fig3. Skull of one humped camel showing the orbital ridge:1.zygomatic process offrontal bone 2. zygomatic process of temporal bone 3.frontal process of zygomaticbone.

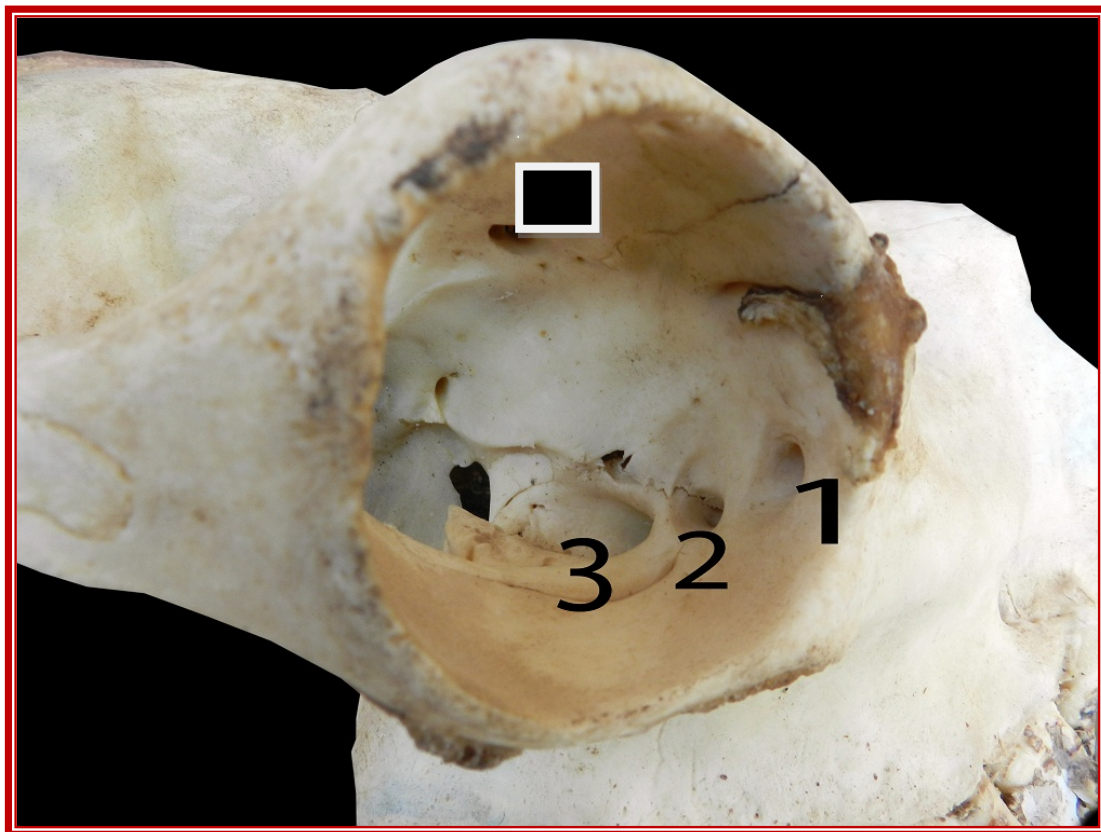


Fig.4:Skull of one humped camel showing the following orbital foramen:
1.Optic foramen 2.Ethemoid foramen 3.Round & alar foramina in one onening

الوصف التشريحي لعظام محجر العين في الجمل وحيد السنام (*camelusdramadarius*)

مسرات سوادى المياحي

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الخلاصة

تأتي أهمية هذا البحث لما لمنطقة محجر العين من أهمية بالغة من الناحية التشريحية للأطباء البيطريين الذين يعملون في مجال التداخل الجراحي لجروح وإصابات العين وذلك لتجنب التداخل الغير السليم مع الأجزاء الحساسة في منطقة محجر العين كالأعصاب والشرابين .

في هذا البحث تم استخدام ستة جماجم من الإبل البالغة من كل جنس وباستخدام طريقة الوصف التشريحي العياني الدقيق لمنطقة محجر العين تبين أن الحافة العلوية لمحجر العين خالية من الفتحة فوق المحجيرية الذي يمر من خلاله العصب فوق المحجري ووجد بدلاً عن ذلك اخدود سطحي يلتحم مع مايشبه الفتحة ليمر من خلاله العصب انف-الذكر .

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