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تفرعات الشريان الحرقفى الخارجى فى الجمل وحيد السنام

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يأتى المدد الشريانى للقائمة الخلفية للجمل عن طريق الشريان الحرقفى الخارجى الذى يغـير اسمة الى الشريان الفخذى عند الفجوة الفخذية . هذا وقد وجد أن الغدة الليمفاوية الحرقفيـة الانسية تحيط تماما بالشريان الحرقفى الخارجى ، كما أن الفرعين السطحى والغائر للشـــريان الحرقفى الدائر الغائر ينبع منفـردا من الشريان الحرقفى الخارجى ليعكس الحالة فى جميـــع الحيوانات المستأنسـة الأخـرى .

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THE BRANCHES OF THE EXTERNAL ILIAC ARTERY IN THE ONE-HUMPED CAMEL (CAMELUS DROMEDARIUS)

(With One Figure)

By

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SUMMARY

Only little information was given by LESBRE (1903) about the vasculature of the pelvic limb in the one-humped Camel. In order to throw light on this subject, the course and branches of the external iliac artery were described in details. Its comparative features were discussed with that of other domestic animals.

INTRODUCTION

The mode of branching of the external iliae artery ofthe one-humped camel differs in some respects from that fo other domestic animals. Moreover, the course and distribution of the branches of the same artery show some differences from that of other domesticated animals.

MATERIAL and METHODS

This study was carried out on 10 pelvic limbs of the one-humped camel (Camelus dromedarius) of both sexes and of different ages. For the study of the course and distribution of the arteries, the specimens were injected at first with 10% formalin solution and after 2 days with red coloured gum-milk (Latex). The Nomenclature used is that adopted by NOMINA ANATOMICA VETERINARIA (1973).

RESULTS

The external iliac artery (1/4)is given off the abdominal aorta at a level between the 6th and 7th lumbar vertebrae. After a caudoventral course, it traverses the Lacuna vasorum to continue distally as A. femoralis. About 2.5 cm from its origin, the external iliac artery is completely surrounded by the medial iliac lymph node. This relation has a clinical importance, as the swelling of the lymph node through inflammation or tuberculosis can interfere with the vascularization of the pelvic limb in the camel. Along its course, the external iliac artery detaches the following branches:

A. circumflexa ilium profunda:

The deep circumflex iliac artery is represented by two separate vessels, a cranial and a caudal branch.

The cranial branch (1/5) is detached about 6-7 cm distal to the origin of the external iliac artery. In only two cases it arose together with the caudal branch. It courses laterally to reach the most dorsal part of the caudal portion of the transverse abdominal muscle where it terminates by dividing into two branches. These vascularize the internal and external oblique abdominal muscles, in addition to the skin of the region of the coxal tuber.

The caudal branch (1/6) is detached from the external iliac artery about 2.2 - 10 cm distal to the cranial one. It passes in a dorsolateral direction to terminate in the transverse abdominal muscle. It detaches the superficial branch (1/6') which pierces the tensor fasciae latae and descends with the lateral cutaneous nerve of thigh to vasculaize the skin of the craniolateral aspect of the thigh region.

A. Circumflexa ilium superficialis:

The superficial circumflex iliac artery (1/7) originates 2.5 - 4.5 cm. distal to the point of origin of the caudal branch of the deep circumflex iliac artery. It courses dorsolaterally ventral to the iliac muscle to end in the tensor fascia latae. It supplies the before mentioned muscles as well as the internal oblique abdominal muscle.

In male subjects, about 1.5 cm from the origin, the superficial circumflex iliac artery detaches the cremastric artery which descends along the caudal border of the cremastric muscle until its insertion.

Truncus pudendoepigastricus:

The pudendoepigastric trunk (1/8) is given off about 2 cm dorsal to the level of the pecten of the pubic bone. In only one specimen it was detached from the deep femoral artery. The trunk divides at the level of the deep inguinal ring into the caudal epigastric and the external pudendal arteries.

A. epigastrica caudalis:

The caudal epigastric artery passes cranially medial to the deep inguinal ring, penetrates the aponeurosis of the transverse abdominal muscle to reach the lateral border of the straight abdominal muscle where it sinks in its substance. It continues cranialwards and terminates by dividing in a dichotomic manner.

A. pudenda externa:

The external pudendal artery is the second division of the pudendoepigastric trunk. It leaves the abdominal cavity through the deep inguinal ring and descends medioventrally through the inguinal canal along the caudal border of the spermatic cord. After its emergence from the inguinal canal it divides in the male subject: into the superficial caudal epigastric artery and the ventral scrotal branch. In females, the artery divides into the cranial and caudal mammary arteries.

The superficial caudal epigastric artery in male subjects vascularizes the deep inguinal lymph node, the skin of the scrotum and also detaches a R. praeputialis. The superficial caudal epigastric artery continues in male as in female animals in a cranial direction along the ventral layer of the rectal sheath suppling it and the skin of the ventral abdominal wall.

The ventral scrotal branch courses ventrally to reach the caudomedial extremity of the superficial inguinal lymph node where it ramifies in the skin of the region.

The cranial mammary artery is the cranial branch of the external pudendal artery in female subjects. It courses cranialwards dorsal to the base of the mammary gland to reach its cranial border where it continues as the superficial caudal epigastric artery. It vascularizes the substance of the gland and the abdominal teet and anastomoses with the caudal mammary artery.

The caudal mammary artery passes caudodorsally ventral to the pubis and ischium and dorsal to the base of the caudal half of the mammary gland. As it reaches the caudal border of the gland, it continues subcutaneously till the ventral part of the vulvar lips as the ventral labial branch. The caudal mammary artery vascularizes the caudal half of the gland in addition to the inguinal teet and anastomoses with branches of the cranial mammary artery.

DISCUSSION

The separate origin of the two end branches of the deep circumflex iliac artery is not reported in other domestic animals (HERRMANN, 1940; BICKHARDT, 1961; FREYTAG, 1962; SCHWARZE and SCHRODER, 1964; BIEL, 1966; SALAMANCA and SCHWARZ, 1966; GHOSHAL and GETTY, 1968; 1970 as well as WILKENS and MUNSTER, 1976). However LESBRE (1903) stated that the external iliac artery of the camel gave off two circumflex iliac arteries instead of one.

The superficial circumflex iliac artery was described only in dog by HERRMANN (1940) under the name A. femoris caudalis. However, WILKENS and MUNSTER (1976) mentioned that this artery is found only in dog and it originates from the femoral artery.

BICKHARDT (1961) found that the cremastric artery in pig arose from the deep femoral artery while FREYTAG (1962) stated that this artery originated from the caudal epigastric artery in sheep. GHOSHAL (1975) mentioned that the cremastric artery arose either from the pudenoepigastric trunk or from the deep femoral artery in ox. However, WILKENS and MUNSTER (1976) stated that the cremastric artery originated in all male domestic animals except horse from the pudendo-epigastric trunk or one of its branches, while in horse it arose from

the external iliac artery.

The anastomosis between the caudal and cranial epigastric arteries which was described by WILKENS and MUNSTER (1976) does not occurs in case of camel.

The two end branches of the external pudendal artery in female subjectes are similar to those described by WILKENS and MUNSTER (1976) in mare and cattle. However, as stated by the before mentioned authers, the cranial mammary artery continues as cranial superficial epigastric artery and the caudal mammary one continues as ventral labial branch.

The anastomosis between the ventral labial and dorsal labial branches i.e. between the ventral and dorsal scrotal branches which was described by WILKENS and MUSNTER (1976) is not found in camel.

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LEGENDS

A. Verbebra lumbalis VII; B. Os sacrum; C. Vetebra caudalis II;
D. lig. sacrotuberale latum; E. Os pubis; F. Os ischii.
a M. transversus abdominis; b M. obliquus internus abdominis; c M. iliopsoas;
d M. psoas minor; e M. coccygeus; f M. obturatorius externus; Pars intrapelvina;
g M. rectus femoris; g'M. vastus medialis; g" M. tensor fasciae latae.

1. Aorta abdominalis;
2. A. sacralis mediana;
3. A. iliaca interna;
4. A. iliaca externa;
5. R. cranialis of A. circumflexa ilium profunda;
6. R. caudalis of A. circumflexa ilium profunda;
6'. its R. superficialis;
7. A. circumflexa ilium superficialis;
8. Truncus pudendoepigastricus;
9. A. femoralis;
10. A. profunda femoris;
11. A. circumflexa femoris medialis;
12. A. circumflexa femoris lateralis.

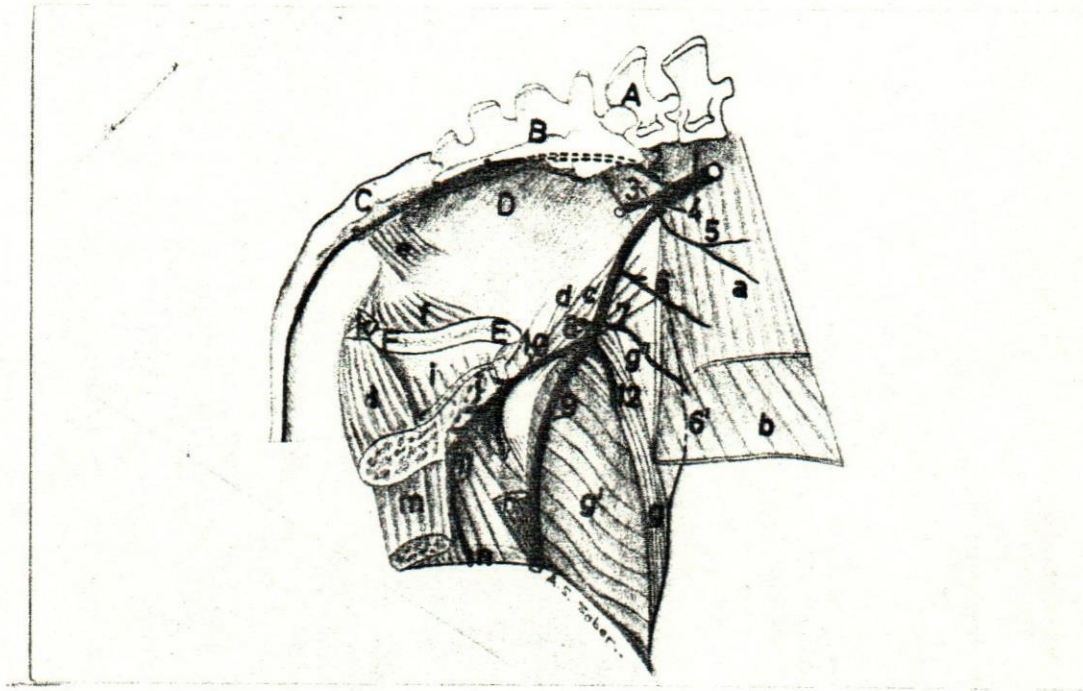

Fig. (1): Branches of the external iliac artery in camel.