

DISCUSSION

Cases of descend of these arteries exclusively from the marginal section of the abdominal aorta remain their main descend in predators [1, 7], while, as reported by Pilarski [8], in other species, a fixed descend of these vessels can be external iliac arteries.

In the blue fox individuals investigated, there were found three places of descend of deep iliac circumflex arteries. Besides the above-mentioned, there were also cases of descend of these arteries between the margin of the abdominal aorta and external iliac arteries. There have been found in the literature available no coverage on their such descend.

Besides the three main types of descend, there were observed also intermediate forms. Some of them are reported by Ventura et al. [10] in the rodent researched-garden dormouse. One shall notice that two extreme places of descend, namely, the abdominal aorta for one artery and the external iliac artery - for the other vessel, were observed in 48.3 % of the cases researched. Other dominating types were also represented by a descend from symmetrical external iliac arteries (23.6 %).

The observations presented here seem to confirm the assumption made by Wiland [9] that the range of variability of different vascular regions has its limits. The variability limits observed are determined by the gene pool. The material researched, as one can assume, it can be seen in the cases described, as the main descend, while the intermediate forms observed may suggest that their occurrence depends also on other factors. Yet the morphological investigations cannot provide any content-related answer.

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CASES OF DESCEND OF THE TRUNK OF THE CAUDAL PHRENIC ARTERY (PHRENICA CAUDALIS) AND CRANIAL ABDOMINAL ARTERY (A. ABDOMINALIS CRANIALIS) FROM THE RENAL ARTERY (A. RENALIS) IN BLUE FOX *ALOPEX LAGOPUS* (L.)

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Synopsis: The research covered 34 blue fox *Alopes lagopus* (L.) individuals (18 females and 16 males). Out of all the individuals investigated, in 4 females and in 1 male (accounting for 14.7 %) there were observed descends of the trunk of the caudal phrenic artery a. phrenica caudalis and the cranial abdominal artery a. abdominalis cranialis from the dextral renal artery a. renalis dextra. In the remaining cases, those arteries descended directly from the descending aorta.

Key words: abdominal aorta, renal arteries, mammalian, blue fox.

INTRODUCTION

Cases of descend of the trunk of the caudal phrenic artery a. phrenica caudalis and the cranial abdominal artery a. abdominalis cranialis from the renal artery a. renalis were found in different predator species. Such a descend of those arteries is reported in cat and dog by Berg [1, 2] and in silver fox by

Brudnicki et al. [3]. A possible occurrence of a common descend from the abdominal aorta of the renal artery and the trunk of the caudal phrenic and the cranial abdominal arteries in predators is also mentioned by Scheller [5].

The available applicable literature provided the present authors with two publications describing the descends of renal arteries from the abdominal aorta in blue fox. The investigations were based on 12 [5] and 78 individuals [7], respectively. The authors did not find their similar descend in the blue fox individuals, which makes it justifiable to describe in the present paper the cases identified where those vessels descended with a common trunk from the abdominal aorta in blue fox and to compare the results obtained with those reported by others.

MATERIAL AND METHODS

The research investigated 34 blue fox individuals (including 18 females and 16 males). The research material of blue fox carcasses was obtained from a blue fox farm located in the vicinity of Bydgoszcz.

The animal material obtained was filled with the synthetic latex (NB-30) introduced through the thoracic aorta into the abdominal aorta, and then fixed with a 5 % formalin solution over 9 weeks, which was followed by the preparation of the arteries.

RESULTS

Along the course of the descending aorta which runs in the abdominal cavity, there descend successively the celiac artery *a. celiaca*, and, following it, not far away from it, the cranial mesenteric artery *a. mesenterica cranialis* (Phot. 1, -1, -2). Between the descend of the cranial mesenteric artery and the renal arteries, the aorta gave rise to trunks of caudal phrenic artery and cranial abdominal artery. A descend of those trunks in 31 (accounting for 91.2 %) individuals was asymmetrical, while in the remaining 3 (8.8 %) cases, symmetrical trunks descended from the aorta at the same level. Investigating the asymmetrical descend of these vessels, in 4 females and 1 male it was observed that the dextral trunk of the caudal phrenic and cranial abdominal arteries separated from the dextral renal artery (Phot. 1, -C).

The vascular variability was observed in 14.7 % cases. Renal arteries in all the blue fox individuals researched descended from the aorta in the form of single vessels. In 33 (97.1 %) the first right renal artery was more cranial than the left artery.



Phot. 1. Case of descend of the trunk of the caudal phrenic (*a. phrenica caudalis*) and the cranial abdominal (*a. abdominalis cranialis*) arteries from the renal artery (*a. renalis*) in blue fox *Alopex lagopus* (L.).

Descend of the trunk of the caudal phrenic artery and the cranial abdominal artery (4) from the dextral renal artery *a. renalis dextra* (5). Celiac artery *a. celiaca* (1), cranial mesenteric artery *a. mesenterica cranialis* (2).

DISCUSSION

In the blue fox individuals investigated, the trunk of the caudal phrenic and the cranial abdominal arteries in 14.7 % of the cases branched from the dextral renal artery. A similar descend of the trunk is reported by Berg [1, 2] in 6 % of cats and 10.9 % of dogs, which makes it justifiable in those three spe-

cies to consider such a structure of this section of branches of the aorta to be a vascular variability. However, as reported by Brudnicki et al. [3] in silver fox, the same way of descend in 93.0 % of the cases shall be considered standard.

The present observations seem to confirm the assumption made by Wiland [6] that the range of variability of different vascular regions has its limits. The variability limits observed are most probably determined by the gene pool.

Only 34 blue fox individuals were investigated, out of which 5 individuals were identified with the vascular variability presented here. In the 1970s Jablan-Panic and Milanowicz [4] as well as Wiland and Knasiecka [7] investigated a total of 90 blue fox individuals and they did not observe a similar descend of these arteries. According to Wiland and Indykiewicz [8], a sudden increase in the number of vascular variability cases in renal arteries observed in american mink and dog could have been also due to environmental changes.

Literature

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Животноводство

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ЭФФЕКТИВНОСТЬ ОБЛУЧЕНИЯ МОЛОЧНОЙ ЖЕЛЕЗЫ НЕТЕЛЕЙ НИЗКОИНТЕНСИВНЫМ ЛАЗЕРНЫМ ИЗЛУЧЕНИЕМ

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Повышенная заболеваемость и отход телят в молозивный период объясняются, главным образом, отсутствием в их крови специфических антител, обеспечивающих иммунитет к инфекционным агентам. Источником таких антител является молозиво – единственный продукт питания телят в первые семь дней после рождения.

Молозиво в организме новорожденных телят обеспечивает две важные функции: питательную, так как в нем высокое содержание энергетических и биологических активных веществ, и защитную. Антитела молозива абсорбируются в тонком кишечнике, попадают в кровеносное русло, обеспечивая пассивный иммунитет в течение 2...3 недель, когда организм теленка еще не способен синтезировать собственные иммунные белки. Однако молозиво первотелок содержит недостаточное количество иммуноглобулинов, что, в свою очередь, негативно влияет на естественную резистентность, рост и развитие новорожденных телят.

Нами проведен эксперимент по установлению эффекта воздействия лазерного излучения красной области спектра посредством облучения биологически активных точек вымени за 10 дней до ожидаемого отела, экспозиция 2 минуты. Воздействие проводили на БАТ, расположенные на молочной железе животного в месте перехода соска в вымя или на расстоянии до 2 см в сторону головы животного.

В первый день после отела колостральное молоко первотелок, подвергнутых лазерной обработке, имело большую плотность – на 0,01г/см или на 9,5% (P<0,05), содержание жира – на