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Blood Supply of Female Reproductive System of *Tytoalba* (Barn Owl)

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Abstract: ***In the mature age, the blood vessels of oviduct originated from left side of abdominal aorta involved the cranial oviductal artery which supply the infundibulum and magnum, the accessory cranial oviductal artery which supplies the magnum, middle oviductal artery which supplies caudal part of the magnum and isthmus, the right caudal uterine artery and the left caudal uterine artery which supply the uterus, and the vaginal artery which supplies the vagina.***

Keywords: blood supply, female reproductive system, tyto alba,

1. Introduction

In domestic fowl, the descending aorta supplies the gastrointestinal tract, urogenital system, other nearby viscera, the trunk, tail and leg. The kidneys are supplied by the cranial, middle, caudal renal arteries. In female the left ovary is supplied by an ovarian artery or arteries, which generally arise from the left cranial renal artery but quite often also arise directly from the aorta. The oviductal arteries form a series of longitudinal anastomosing arterial arcades along the dorsal and ventral ligaments (King and Mclelland, 1984).

The arterial supply to the oviduct is generally derived from three oviductal arteries, the cranial, middle and caudal oviductal arteries, which are branches of the left cranial renal artery, the left ishiadic artery, and the left pudendal artery respectively (Hodges, 1965; Getty, 1975; Mohammd, 2010).

2. Material and Methods

In order to investigate the blood supply of the oviduct, adultsof barn owl *Tyto alba*were, anesthetized by (ketamin) and they have been given a time to complete bleeding through a pinhole opened in the left ventricle until they died.The birds were injected by using 50ml syringes attached to catheters and inserted in to the heart. First, normal saline was used to wash the blood vessels , followed by a mixture consist of 2 parts ammonium hydroxide to 3 parts latex , carmine stain was added for red color . In order to prevent the vascular out flow of mixture glacial acetic acid was added and the heart pinhole was closed by the artery forceps. After the completion injection, the whole bird body was placed in 10% formalin for 48 hr (Mohammed, 2010; Al- Taai, 2015).

3. Results and Discussion

The descending aorta has passed caudally in the coelom and given several of the branched arteries. These arteries have supplied the gastrointestinal tract and then the female gentile system and involved; the ovarian artery which supplied the left ovary has originated as the first branch of left cranial renal artery (Figure1). The oviduct has supplied by the following arteries:

1) **Cranial oviductal artery*:*** It branch of the left cranial renal artery and supplied the infundibulum as well as the anterior middle third of magnum region throughout its branches (Dorsal & Ventral marginal oviduct arteries). Additionally it was giving branches which anatomized with those of accessory cranial oviductal artery.
2) **Accessory cranial oviductal artery**: It rose from the external iliac artery and supplied the posterior third of the magnum in addition to the isthmus.
3) **Middle oviduct artery**: It directly rose from the descending aorta and supplied the isthmus throughout its anastomosis branches in addition to the uterus throughout the uterine artery.
4) **Caudal oviductal artery and vaginal artery**: they rose from the internal iliac artery and supplied the uterus and the vagina.

The present study revealed that the left ovary has supplied by the ovarian artery this result was similar to results of (Pollock and Orosz, 2002) in hen. The present findings found that in barn owl the middle oviduct artery was one of the main branches which directly raised from the descending aorta and supplied the oviduct while the others (cranial, accessory, caudal oviduct and vaginal arteries) which supplied the oviduct were sub-branches of other main branches, this result was similar to what mentioned by authors like (Hodges, 1956; Getty, 1975; King and McLelland, 1984; El-Bergeasy, 1990**;** Mohammed, 2010; Hassan,2013; and Al- Taai, 2015). But Hodges (1956) referred to other arteries which participate in the supplement and included the hypogastric, femoral and left iliac arteries that supplied the oviduct of the domestic fowl. On other hand the present results of the arteries which supplied the oviduct regions were similar to those records of all authors except Mauger (1941) who recorded that the middle and posterior magnum have supplied by branch of left femoral and Hodges (1965) who showed thatthe posterior magnum and isthmus have supplied by three-six branches of the hypogastric artery which was branch of the left sciatic artery.

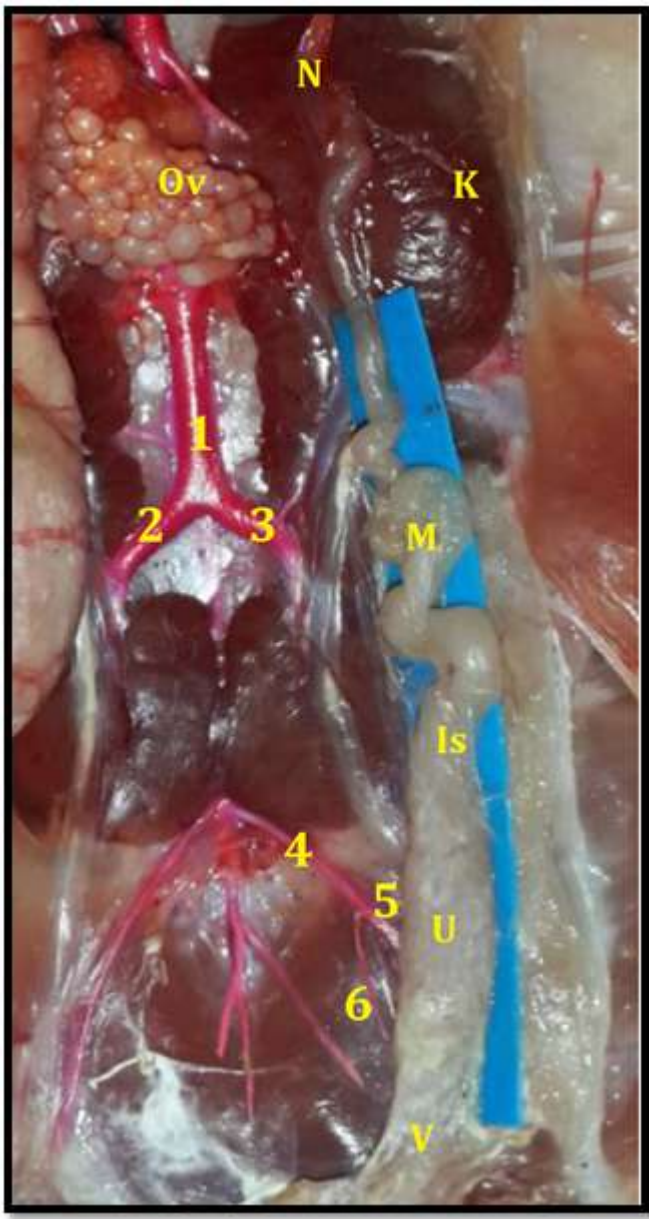

Figure 1: Blood supply in Barn owl showed: Descending aorta (1) right caudal renal artery (2) left caudal renal artery (3) left pudendal artery (4) caudal oviducal artery (5) vaginal artery (6) Ovary (O), funnel (F), Neck (N),Magnum(M),Isthmus(Is),Uterus(U),Vagina(V) and Kidney (K)

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