



ANATOMICAL STUDY OF THE BLOOD SUPPLY OF GENITAL TRACT OF TURKEY HEN *MELEAGRIS GALLOPAVO*

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ABSTRACT

An anatomical study was conducted to investigate the blood supply of 5 indigenous adult turkey hens (*Meleagris gallopavo*), aged about (45-55) weeks and average weight of 5.5 kg. The results revealed that the left ovary of indigenous turkey hen is supplied by an ovarian artery, which arises directly from the aorta, while the oviduct was supplied by the following arteries namely: The cranial oviducal artery, middle oviducal artery, caudal oviducal artery and vaginal artery, these blood vessels supplies all parts of genital tract of female turkey which had the corresponding names of veins.

KEYWORDS: *Meleagris gallopavo*, cranial, middle, caudal and vaginal artery etc.

INTRODUCTION

In the domestic fowl, the left ovary is supplied by ovarian artery, which generally arises from the left cranial renal artery but quite often also arises directly from the aorta immediately cranial to the cranial renal artery^[1]. The ovarian artery leave the ovary, then passes caudally along the ventral surface of the cranial lobe of the kidney and coursed within the dorsal mesentery as cranial oviducal artery that ramified into the infundibulum and cranial portion of the magnum^[2]. The arterial supply to the oviduct is generally derived from three oviduct arteries. The cranial, middle and caudal oviduct arteries are branches into the left cranial renal artery, the left ischiatic artery and the left pudendal artery respectively. Some times in the domestic fowl there is a fourth oviduct artery, the cranial accessory oviduct arteries, which arising from the left external iliac artery^[2,3,4,6] observed that the oviduct in the domestic fowl is supplied by the following four arteries namely: 1) The cranial oviducal artery, 2) Middle oviducal artery, 3) Caudal oviducal artery and 4) vaginal artery. These four arteries at all unpaired arteries on the left side of the body only. The cranial oviducal artery was arised from the ovario-oviducal branch of the left cranial renal artery. The ovario-oviducal branch divides within the ovary into the ovarian artery and the cranial oviducal artery. After emerging the ovary the cranial oviducal artery enters the dorsal ligament of the oviduct. Here it gives off the large anastomosing artery which travels caudally in the dorsal ligament to anastomosing directly with the middle oviducal artery and then continues in the dorsal ligament along dorsal aspect of the oviduct as dorsal, marginal oviducal artery at the uterus it continues into the dorsal uterine artery. The ventral marginal oviducal artery is a well-developed, almost continues the longitudinal trunk in the ventral ligament, continuing directly along the ventral wall of the oviduct into the ventral uterine artery^[7]. The middle oviducal artery originated from left ischiatic artery. It receives the large anastomosing branch from the cranial oviducal artery and ended on the cranial end of the uterus by forming left and right cranial uterine arteries and the dorsal uterine artery.

The right and left cranial arteries reinforced the ventral uterine artery then anastomoses caudally with the vaginal arteries. The dorsal uterine artery was divided into the left and right lateral uterine arteries^[6,8]. The caudal oviducal artery was a short trunk originated from left pudendal artery^[9] or from the intestinal branch of the internal pudendal or from the pelvic branch of the internal iliac artery^[2,4]. It is divided into the left and right caudal uterine arteries then they anastomosed with the lateral and ventral uterine arteries. Sometimes, either the left or right caudal uterine artery is absent^[2,6,8]. The vaginal artery was a short trunk originated from the left pudendal artery or forms the caudal oviducal artery^[9]. It is divided into the left and right vaginal arteries, these arteries supplies the uterus only 4 or the left and right sides of the vagina only 2. The infundibulum and the anterior and middle of the magnum in turkey hen (*Meleagris gallopavo*) received the blood supply from the cranial oviducal artery that branched from the ovario- oviducal branch of the left renal artery or from the aorta^[10].

MATERIALS & METHODS

The study included 5 indigenous adult turkey hens (*Meleagris gallopavo*), aged about (45-55) weeks with average weight of 5.5 kg. These birds were anesthetized using (25mg /kg. B.W) ketamine hydrochloride, intramuscular injection, the bleeding of the anesthetized birds was done directly from the left ventricle of the heart. The heart was catheterized from the left ventricle up to the aorta in order to inject the mixture of latex with carmine for coloring the arterial blood supply. These specimens were fixed in 10% formalin solution for 48 hours. The specimens then dissected to study the blood supply of the ovary and oviduct^[11].

RESULTS AND DISCUSSION

Blood Supply of the Genital Tract: This study showed that the left ovary of indigenous turkey hen is supplied by an ovarian artery, which arises directly from the aorta as given in (Figure 1). Same results were found in domestic fowl^[1]. While the oviduct was supplied by the following arteries namely:

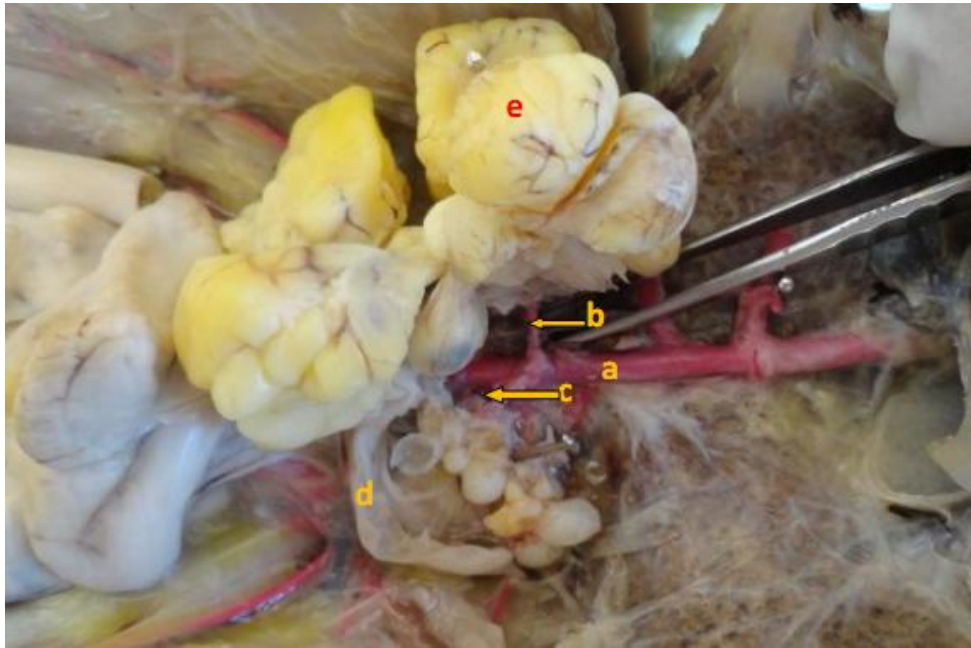


FIGURE 1: Photographs showed: a- Descending aorta, b- Ovarian artery, c- Cranial oviducal artery, d- Infundibulum, e- Ovary.

The cranial oviducal artery which originated from the aorta directly to provide the Infundibulum and cranial part of the magnum as showed in (Figure 1). These results were declared by ^[10] in turkey hens.

The middleoviducal artery originated from left ischiatic artery passing through the dorsal mesentery of the oviduct to give cranial and caudal branch that supply the

caudal part of the magnum and isthmus. The cranial give rise to branch is divided in to branch (right and left cranial uterine arteries) at the junction of the uterus. The caudal branch divided into (right and left lateral uterine arteries) as given in (Figure 2]. The same results were found in domestic fowl ^[2,3,10] in turkey hens.

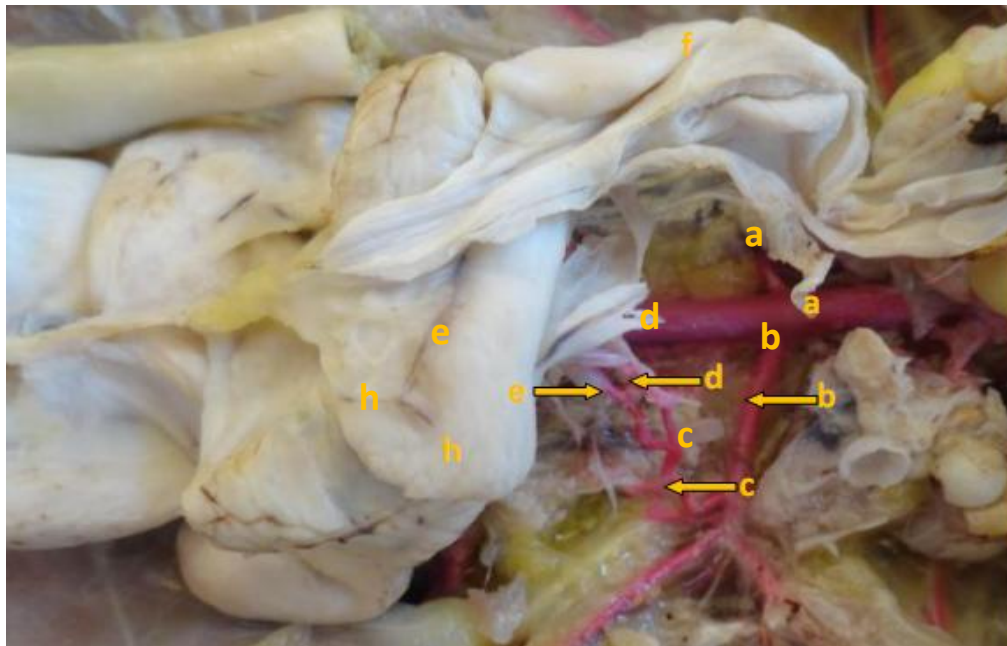


FIGURE 2: Photographs showed: a- Descending aorta, b- Ischiatic artery, c- Middle oviducal artery, d- Cranial branch, e- Caudal branch, f-Infundibulum , h- Magnum

The caudal oviducal artery originated from left pudendal artery. Its divided into the left and right caudal uterine arteries which anastomosis with the right and left lateral uterine arteries as shown in (Figure 3). This result was also

found in domestic fowl hens ^[6,8]. The vaginal artery originated from left pudendal artery which is divided into the left and right vaginal arteries to provide the vagina as

shown (Figure 3). This result corresponds with the result as reported by several researchers^[2,4,9].

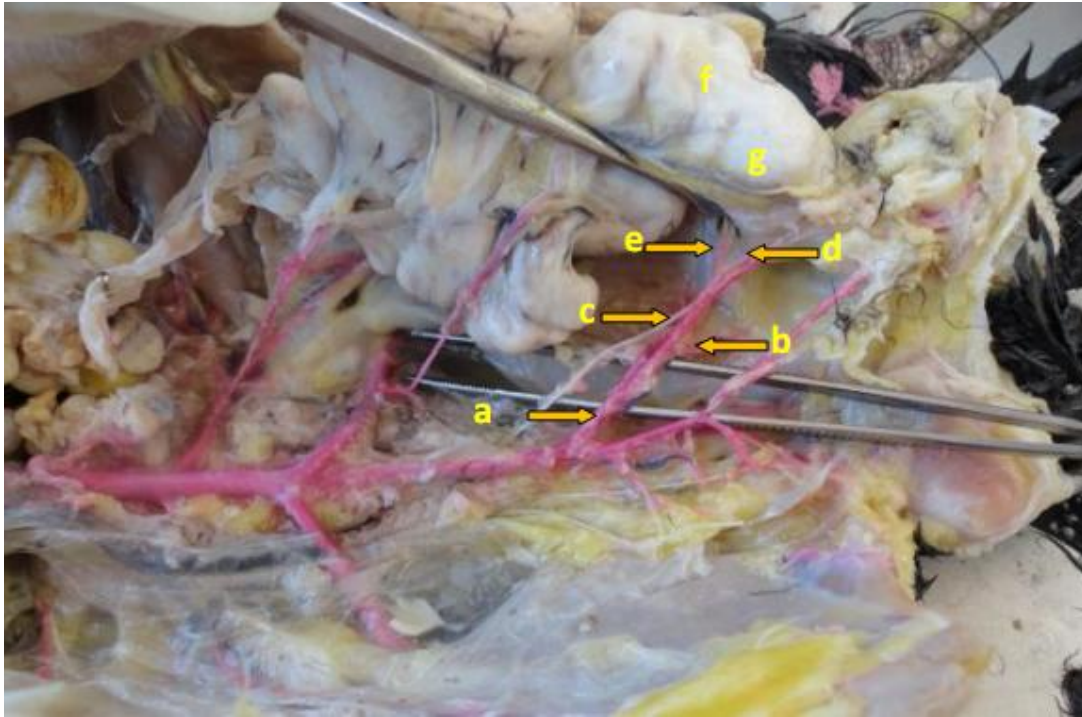


FIGURE 3: Photographs showed: a- Pudendal artery, b- Vaginal artery, c- Caudal oviducal artery, d- Right caudal uterine artery, e- left caudal uterine artery, f- Uterus, g- Vagina.

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