

Brief Report

GROSS ANATOMICAL STUDIES ON THE FEMALE REPRODUCTIVE SYSTEM OF THE ASIATIC ELEPHANT (*ELEPHAS MAXIMUS*)

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ABSTRACT

The Asiatic elephant (*Elephas maximus*) is a social and intelligent animal. The present investigation was conducted on the female genital system of an adult Asiatic elephant (*Elephas maximus*) about 71 years of Pabitora wildlife Sanctuary Morigaon, Assam. The female reproductive system was consisted of ovary and female reproductive tract. In present investigation, oviduct, uterus and vagina were observed. The surface of the ovary contained sulcus and convolution, and looks like a woollen ball. The ovary was firm in touch and attached with mesovarium. The oviduct was composed of infundibulum, ampula and isthmus. The infundibulum was divided into two part i.e., funnel and tubular part. The isthmus was a narrow constricted part cranial to the horn of the uterus. The uterus of Asiatic elephant (*Elephas maximus*) was bipartite type and consisted of horn of the uterus, body of the uterus and cervix. The inter cornual ligament was located between the two horns of the uterus. The broad ligament was attached to the female reproductive tract of Asiatic elephant (*Elephas maximus*). The weight of the uterus was more compared to other part of the female reproductive tract.

Keywords: Gross; Anatomy; Female; Reproductive; Asiatic elephant

INTRODUCTION

The Asiatic elephant (*Elephas maximus*) is a largest terrestrial, social and intelligent animal. As per the wildlife protection act, 1972, the Asiatic elephant (*Elephas maximus*) is an endangered animal. The skin of the animal is very thick. It is distributed throughout the India. Since there is very scanty literature on the gross anatomy of female reproductive system of Asiatic elephant (*Elephas maximus*) in senility and endangered animal of wildlife, hence the present study was designed to establish an anatomical norms on the female reproductive system of Asiatic elephant (*Elephas maximus*).

MATERIALS AND METHODS

The present investigation was conducted on the female genital system of an adult Asiatic elephant (*Elephas maximus*) about 71 years of Pabitora wildlife Sanctuary Morigaon, Assam, India just after post mortem study. The animal was died due to senility. The female reproductive system was collected immediately after death. The biometrical value and gross anatomical study were made on it.

RESULTS AND DISCUSSIONS

In current study, female reproductive system of Asiatic elephant (*Elephas maximus*) was utilized. The female reproductive system was consisted of ovary and female reproductive tract. In present investigation, oviduct, uterus and vagina were observed. The surface of the ovary contained

sulcus and convolution, and looks like a woollen ball (Figures 1 and 2). The ovary was firm was touch. The broad ligament of the ovary was known as mesovarium. Similar observation was reported by Sahu et al., (2017) in Kendrapada sheep. The oviduct was composed of infundibulum, ampula and isthmus (Figure 3). The infundibulum was divided into two part i.e., funnel and tubular part. The funnel part of the infundibulum helps in suckling of ova from ovary to the site of fertilization (ampula). The isthmus was a narrow constricted part cranial to the horn of the uterus. The uterus of Asiatic elephant (*Elephas maximus*) was bipartite type and consisted of horn of the uterus, body of the uterus and cervix. These findings were total agreement with the Akers and Denbow (2013) in cow and Khaton et al., (2015) in dairy cows of different genotypes in Bangladesh. The intercornual ligament was located between the two horns of the uterus. The broad ligament was attached to the female reproductive tract of Asiatic elephant (*Elephas maximus*) (Figure 3). This ligament provides immobility to the female reproductive tract of the Asiatic elephant (*Elephas maximus*).

The length, breadth, circumferences, thickness and weight of the left ovary were 12 cm, 10 cm, 28.5 cm, 3 mm and 255 gm respectively. The same in respect to the right ovary were 12.5 cm, 10 cm, 26 cm, 3 mm and 250 gm respectively. The length, circumferences, thickness and weight of cervix were 11 cm, 20 cm, 1.5 cm and 510 gm; the right infundibulum, ampula, isthmus and horn was 15 cm. 1 cm, 6 mm, 30 gm, 13 cm, 7

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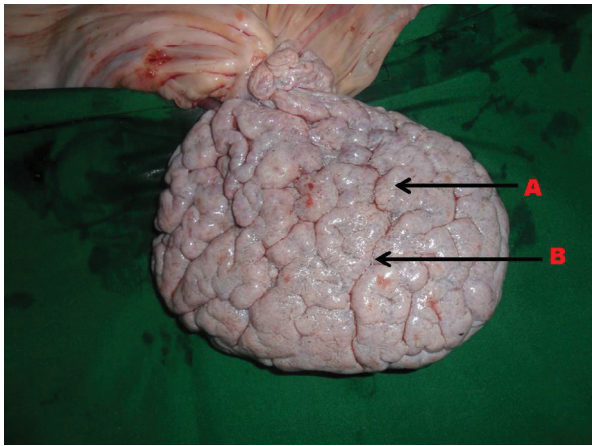


Figure 1: Photograph showing the (A) Sulcus and (B) Convolution of ovary of Asiatic elephant (*Elephas maximus*).



Figure 2: (A) Photograph showing the measurement of ovary of Asiatic elephant (*Elephas maximus*).

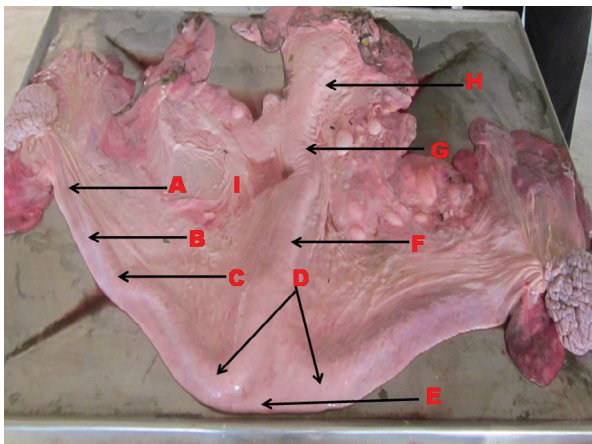


Figure 3: Photograph showing the infundibulum (A) Ampulla, (B) Isthmus, (C) Horn of Uterus, (D) Intercornual ligament, (E) Body of the uterus, (F) Cervix, (G) Vagina, (H) Broad Ligament, (I) of female reproductive tract of Asiatic elephant (*Elephas maximus*).

mm, 70 gm, 8 cm, 3.1 cm, 8 mm, 50 gm, 42 cm, 8 mm and 750 gm and that of left infundibulum, ampulla, isthmus and horn was 24 cm, 1.8 cm, 4 mm, 60 gm, 10 cm, 2.3 cm, 6 mm, 40 gm, 9 cm, 2.5 cm, 8 mm, 40 gm, 34 cm, 4.5 cm, 9 mm and 760 gm respectively. The length, breadth, circumferences, thickness and weight of the body of the uterus was 28 cm, 6.5 cm, 3.0 cm, 1.4 mm and 80 gm respectively. The thickness of vagina was 7 mm and weight of uterus 5.6 kg which shall aid the veterinary scientist in the detection of abnormal conditions of the female genitalia.

CONCLUSION

The female reproductive system was consisted of ovary and female reproductive tract. In present investigation, oviduct, uterus and vagina were observed. The surface of the ovary contained sulcus and convolution, and looks like a woollen ball. The oviduct was composed of infundibulum, ampulla and isthmus. The infundibulum was divided into two part i.e., funnel and tubular part. The uterus of Asiatic elephant (*Elephas maximus*) was bipartite type and consisted of horn of the uterus, body of the uterus and cervix. The intercornual ligament was located between the two horns of the uterus. The broad ligament was attached to the female reproductive tract of Asiatic elephant (*Elephas maximus*). The weight of the uterus was more compared to other part of the female reproductive tract. This study will be helpful to wildlife veterinarian for effective disease control regime.

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