

PELVIMETRY OF THE SMALL GREEN MONKEY (*CERCOPITHECUS AETHIOPS SABEUS*)

VERICA MRVIĆ, ZDENKA BLAGOJEVIĆ, SOFIJA JOVANOVIĆ and ZORA NIKOLIĆ

Department of Anatomy, Faculty of Veterinary Medicine, Belgrade, Yugoslavia

(Received, 16. December 1997.)

*The small green monkey (*Cercopithecus aethiops sabeus*) is a laboratory animal, and has been used in various immunological and cytochemical investigations. Our investigations included measurements of the diameters of the pelvis in females. In most cases the females were between two and three years old. The results obtained were compared with domestic animals, and they refer to some 50 females. The measurements of pelvic diameters were made after the extraction of the pelvis.*

*Key words: *Cercopithecus aethiops sabeus*, female genital organs, pelvis*

INTRODUCTION

The small green monkey (*Cercopithecus aethiops sabeus*) has been used for many years in laboratories and their female genital organs studied. During the last decade immunological and cytochemical studies have been conducted; among which those on fetal and placental membranes occupy a prominent place, as well as those on receptors for oestrogens and progesterone in the uterus of females of various ages. The small green monkey can also serve as a model for studies of urogenital infections, e. g. experiments in involving the inoculation of viruses causing venereal diseases. Takada et al., (1987) studied the three-dimensional structure of the spiral ovarian arteries; whereas Shimada et al., (1993) concentrated on the morphological changes on the spiral arteries, like Willem (1962). Unfortunately, we have not been able to find the relevant data in literature pertaining to either the pelvimetric measurements of the female pelvis or to the basic morphological characteristics of those organs. Therefore, we hope that our investigations and the obtained results will be valuable for a better understanding of the structure of the body of this animal.

MATERIALS AND METHODS

About fifty females, aged between two and three years, of body weight 2000-3000 g were used in our investigations. The monkeys originated from the

Institute of immunology and virusology in Belgrade. Kidney cultures from each monkey served for detection of the presence of viruses in the material. According to some data, mostly from zoos, the monkeys live about for fifteen years, exceptionally twenty. They are fertile between 4 and 7 years of age. Pelvic measurements were made using the bones of the pelvis. Prior to the measurement all the organs were extracted from the pelvic cavity, after which all the remaining tissues were removed by the process of maceration. Thus cleaned bones were submerged in 5% hydrogen peroxide for 48h in order to be bleached.

RESULTS AND DISCUSSION

The abdominal cavity in the female is relatively long. It extends from the diaphragm to the cranial opening of the pelvis (*Apertura pelvis cranialis*), measuring some 15cm. The width of the cavity, at the level of the last pair of ribs, may attain 5cm, whereas its length, measured at the level of the first lumbar vertebra, is also 5cm. The pelvic cavity of those animals is considerably greater in length than in width (Figure 1).

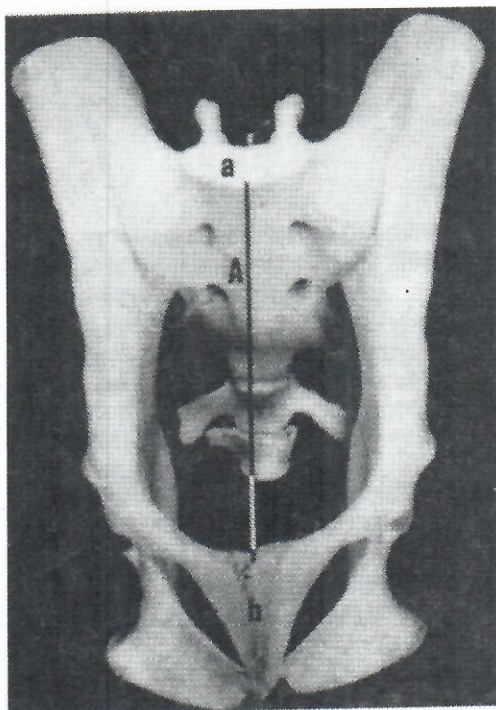


FIGURE 1 A - Diametar medianus
a - Promontory
b - Symphysis pelvis

The pelvimetry of the bony floor of the pelvis in the small green monkey, with relation to pelvic diameters, appears as follows:

Conjugata vera seu diameter medianus, which represents the distance from the promontory on the sacrum bone to the cranial end of the pelvic symphysis, is approximately some 5 cm long. This length points to the height of the inlet of the pelvic cavity (Figure 1-A).

Conjugata diagonalis seu diameter diagonalis, the distance from the promontory to the caudal end of the pubic symphysis, measures approximately 7,5 cm (Figure 2A-B). The distance represents at the same time the length of the pelvic cavity.

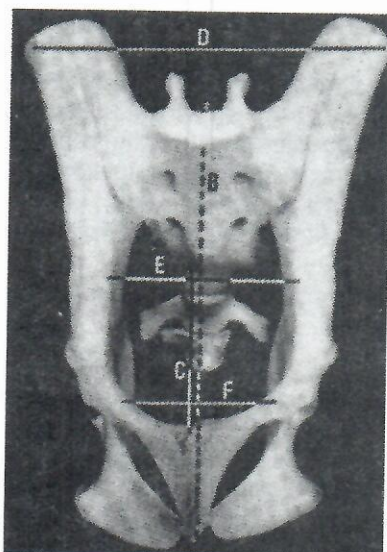


Figure 2A B - Conjugata diagonalis
C - Diameter verticalis
D - Dorsal diameter
E - Medial diameter
F - Ventral diameter

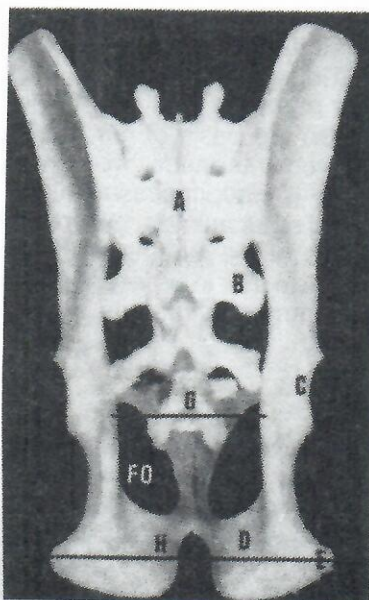


Figure 2B G - Pelvic outlet
H - Caudal transversal diameter
FO - For. obturatoria
A - Processus spinalis
C - Acetabulum
E - Tuber ischi

Diameter verticalis is a vertical line between the cranial end of the pubic symphysis and the sacrum. Its average length is 4cm, and it represents the height of the pelvic cavity (Figure 2A-C).

The transverse diameter of pelvic inlet is expressed in transverse diameters marked as: dorsal, medial and ventral.

The dorsal diameter is the distance between the lateral ends of the sacrum and has an average length of 6 cm. (Figure 2A-D).

The medial diameter represents the distance between the two tubercula psoas minores on the femoral lumbus and its average length is 4cm (Figure 2A-E).

The ventral diameter extends between the two eminentiae ilopubicae, and only attains 2,5 cm (Figure 2A-F).

Among the transverse diameters of the pelvic outlet the most important is the one that represents the distance between the middle of the two spinae ischiadicae. Its average length is 2,5 cm (Figure 2B-G).

The caudal transverse diameter, a transversal diameter of the pelvic outlet, is the distance between the medial surfaces of the ischial tuberosities (*tuber ischiadicum dex, et sin.*). The average length is 4 cm (Figure 2B-H).

With regard to the aforementioned diameters it can be ascertained that the ratio of the length of the abdominal cavity to that of the pelvic cavity (*cavum abdominis* vs. *cavum pelvis*) is 2:1. The pelvic floor, with its relatively large foramen obturatoria (Figure 2B-FO), is rather deep, compared to the same floor in males. This is in agreement with the results obtained by other authors who have tackled similar problems, e. g. Miladinovic (1965).

On the basis of our investigations, the available literature data and the measurements made, we conclude that the pelvis of the small green female monkey (*Cercopithecus aethiops sabeus*) does not differ significantly from the pelvis of other animals, except when pelvic diameters are compared. In addition, the ratio of the lengths of the abdominal cavity and the pelvic cavity (2:1) is identical to that in other animals, with a deep pelvic floor on which the relatively large foramen obturatoria is situated.

REFERENCES

1. Miladinovic, Z., 1965. Morfologija i vaskularizacija ženskih polnih organa kanadske lasice (*Mustela vison*), *Doktorska disertacija*, Beograd.
2. Shimada, T., Morita, R., Nagai, K., Sato, F., Mori, H., Campbell, G., 1993. Morphological changes in spiral artery of the mammalian ovary with age. *Hormones*, 39, suppl 1, 9-15.
3. Takada, S., Shimada, T., Nakamura, M., Mori, H., Kigawa, T., 1987. Vascular pattern of the mammalian ovary with special reference to the three-dimensional architecture of the spiral artery *Arch histol. Jpn. oct 50 (4)*, 407-418.
4. Willem, M., 1962. Human decidual spiral arterial studies, *J. Obst. Gyn Brit. Comm*, 69, 6, 944-945.

PELVIMETRIJSKA MERENJA ŽENKI MALOG ZELENOG MAJMUNA (*CERCOPITHECUS AETHIOPS SABEUS*)

VERICA MRVIĆ, ZDENKA BLAGOJEVIĆ, SOFIJA JOVANOVIĆ i ZORA NIKOLIĆ

SADRŽAJ

U ovom istraživanju su prikazani rezultati pelvimetrijskog merenja ženki malog zelenog majmuna, i to jedinki koje su bile starosti između dve i tri godine. Po uklanjanju svih organa, izvršena su merenja dijametralne relacije. Diametar

medianus iznosi prosečno 5cm, diameter diagonalis oko 7,5 cm a diameter verticalis oko 4cm. Transverzalni promer koji izražavamo kao dorsalni, srednji i ventralni poseduje i diameter koji predstavlja izlaz iz karlične duplje, ujedno je i najvažniji diameter i iznosi u proseku 2,5 cm. Na osnovu svih dobijenih rezultata, došli smo do zaključka da se karlica ženki malog zelenog majmuna ne razlikuje u većem obimu od karlice ostalih životinja, osim ako se upoređuju sami karlični dijometri.

