

MORPHOLOGICAL INDICATORS OF REPRODUCTIVE ORGANS OF BREED WHITE PIGS

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The hormonal and generative function of the ovaries in pigs begins to form completely only at 6-7 months of age. According to morphological parameters, the generative organs of Great White pigs of all ages have certain features. Features are associated with the growth and development of animals in the process of ontogenesis. The development of all organs of the reproductive system of animals is influenced by the pituitary gland and the gonads, which produce steroid and peptide hormones. At the same time, the sexual cycle differs significantly from this period in singleton animals. This is due to the number of maturing follicles during puberty. The growth of all organs of the reproductive system of females has a close relationship with the ovaries, the state of health of the pigs' organism, the normalized feeding of animals, the number of offspring and their weight.

In newborn pigs, the ovaries are oval in shape, without follicles on their surface. Their size is up to 9 mm in diameter, the mass of one ovaries reaches 15 mg. The change in the mass and shape of the ovaries is associated with a large number of follicles of different sizes. The shape of the ovaries changes due to the protrusion of follicles on their surface.

As for other parts of the reproductive system (fallopian tubes, uterus, uterine horns, cervix, vagina and vaginal vestibule), there is a tendency towards gradual age-related changes.

In newborn pigs: the fallopian tubes are up to 8 cm long and about 3 mm in diameter in the middle; the body of the uterus has a size of about 1.5 cm and the increase in this indicator is gradual. At the same time, at the age of 7 months - the length of the fallopian tubes increases to 24 cm, but the diameter in the middle part remains unchanged; and the size of the body of the uterus increases to 4.8 cm.

The body of the uterus in pigs of all ages passes into the cervix without abrupt changes, and the cervix, in turn, passes into the vagina without clear boundaries. So, in newborn pigs, the cervix is up to 5 cm in size, and at 7 months of age, the size increases to 17.5 cm; the length of the vagina increases from 3 cm to 10.5 cm.

When examining the external genital organs of pigs, no changes in the structure were found, a gradual increase in linear indicators is noted.

Key words: *large white breed of pigs, reproductive organs.*

Formulation of the problem. For the successful rearing of farm animals, it is necessary to know the patterns of their age physiology, because it is impossible to transfer all functional changes in the rabbit and rat organism to cattle or pigs, forgetting about the deep morpho-functional differences between different types of animals. Such knowledge should form the basis for the development of technological systems for the production of milk and meat.

The genitals of females of each animal species have their own specific characteristics, ranging from the structure of the ovaries, uterus, cervix and ending with the structure of the external genital organs.

The study of the development of the genital organs in the age aspect is very important. Especially in terms of age selection of pairs for breeding farm animals.

Analyze of recent research and publications. The reproductive organs ensure the reproduction of animals, and, accordingly, the preservation of a certain species. The reproductive system is also characterized by a hormonal function that affects the growth and development of the body.

There is much in common between the reproductive apparatus of females and males, as well as between the reproductive apparatus of animals of different species. The reproductive apparatus has: sex glands that produce sex cells; ducts that conduct germ cells; the uterus is developed only in females and is intended for bearing a fetus; external genitalia, providing contact between the genitals. The genitals

have some differences due to their complex path of evolutionary development and adaptation to the external environment.

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The development of the functions of the reproductive system after birth in domestic animals, both in males and females, has been insufficiently studied. Particularly insufficiently studied is the period of sexual development, that is, morphological changes and functional processes in the reproductive system of animals during the period from the appearance of the first signs of manifestation of sexual function to the end of its formation. Sex reflexes and processes of formation of germ cells, as well as their quality and biological value, have been little studied during this period.

The development of the functions of the reproductive system and the period of sexual development in females of farm animals have been studied by a few authors, therefore, these data are few.[1-7]

The purpose of our work is to study the development of the genital organs of the Great White pigs in the age aspect.

Materials and methods of research. During the work, we used weight and morphometric methods.

The results of own research. *The ovaries.* In pigs, the ovaries are located at the level of 5 - 6 lumbar vertebrae. They are surrounded by a well-developed ovarian sac.

In newborn pigs of the breed, a large white ovary is smooth and oval in shape, no follicles are visible on their surface. Their size is up to mm in diameter, the mass of one ovary reaches 15 mg.

By 2 months of age, they increase significantly. The ovaries become bean-shaped. Weighing up to 175 mg. Their size becomes up to 23 mm in diameter. Follicles appear on their surface, in the form of white bubbles, up to 1 mm in size.

In gilts 5 months of age, the ovaries become significantly larger. They increase their linear indicators by almost 1.5 times. So, their size becomes up to 34 mm in diameter. Their shape also changes - they are already bean-shaped, hilly. On the surface, follicles are already clearly visible in the form of bubbles, ranging in size from 1 to 2 mm, well protruding above the surface.

In 6-month-old pigs, the ovaries change not only their weight and size, but also their shape. They become similar to mulberry berries, due to the large number of follicles on the surface of different sizes from 1 - 2 mm. The follicles are like bubbles filled with fluid. Their size is up to 38 mm, weight 3.2 g.

In gilts of 7 months of age, the ovaries become more hilly due to the large number of follicles on the surface. Follicles up to 2 - 3 mm in diameter, filled with fluid. They are 42 mm in size and weigh 3.9 g.

The change in the mass and shape of the ovaries is associated with a large number of follicles. They vary in size from very small, which are barely visible to the eye, to large. Their shape changes due to the protrusion of the follicles on the surface of the ovaries.

As for other parts of the reproductive system (fallopian tubes, uterus, uterine horns, cervix, vagina and vestibule), they also tended to gradual age-related changes.

The fallopian tubes. In pigs, the fallopian tubes lie in the mesentery, which is part of the wide uterine ligament. So, in newborn gilts, the fallopian tubes were up to 8 cm long and had a diameter in the middle of about 3 mm.

At 2 months of age, they already had a length of 11 cm, the diameter did not change. In 5 month old gilts, the length of the fallopian tubes was 17 cm. They were about 4 mm in diameter. In 6-month-old gilts, the fallopian tubes increased to 21 cm in length, but the diameter in the middle part did not change and was 4 mm. 7-month-old pigs have fallopian tubes up to 24 cm long, but the diameter in the middle part remained unchanged.

Uterus. In pigs, the uterus is two-horned, but separate. It has very long horns and a poorly defined body. So, in newborn pigs, the body of the uterus has a size of about 1.5 cm. The increase in the body of the uterus takes place gradually, so in 2-month-old pigs, the body of the uterus already increases to 2 cm, in 5-month-olds - up to 3.5 cm, in 6 - menstruation - up to 4.3 cm, and at 7 months - it acquires sizes up to 4.8 cm.

Horns of the uterus are thin, intestinal, collected in loops. Their length depends on the age of the mumps. In newborn pigs, they are up to 35 cm long, in 2, 5, 6 and 7 month old pigs, respectively, 48 cm, 65 cm, 78 cm and 83 cm. Their length increases in accordance with the age of the animals.

The body of the uterus in pigs of all ages passes into the cervix without abrupt changes, and the cervix, in turn, also passes into the vagina without sharp boundaries. The mucous membrane of the neck forms characteristic wavy stripes with protrusions. The cervical canal has a corkscrew shape. The size of the cervix also tends to increase. So in newborn pigs, it measured up to 5 cm, at 2 months - already 9 cm, at 5, 6 and 7 months of age, respectively, 12.8 cm, 15.3 cm and 17.5 cm.

Vagina. The vagina in pigs is tubular, located in the pelvic cavity under the rectum. The mucous membrane of the vagina in pigs does not have longitudinal stripes, and there is also no fornix. With regard to the size of the vagina, we also observed a trend of gradual increase depending on the age of the pigs. So, in newborn pigs, it had a length of 3 cm, in 2-month-old pigs it increased to 6 cm, and in 5, 6 and 7-month-old pigs in accordance with 8.5 cm, 9.3 cm and 10.5 cm.

The vestibule of the vagina. In pigs of all age groups, the vestibule of the vagina is short; its length depends on the age of the animals. Has well-developed longitudinal folds of the mucous membrane. The openings of the glands are small. In the lower part of the side walls - cavernous formations. Caudally of the urethra, there are two pairs of folds between which the ventral glands open. The size of the vestibule: in newborn pigs 2 cm, 2 months - 2.5 cm, at 5, 6 and 7 months, respectively, 4.8 cm, 5.5 cm, 7.2 cm.

External genital organs. When examining the external genital organs of pigs: the labia, limiting the genital slit, and the clitoris, we did not find structural changes depending on the age of the animals, they concerned only linear dimensions. The external genitals are located ventrally from the otkhodnik, separated from him by the perineum.

Conclusions

1. By morphological parameters, the reproductive organs of Large White pigs of all ages have certain features, which we associate, first of all, with the growth and development of animals.

2. The development of the reproductive organs of animals is influenced by the pituitary gland and gonads, which produce steroid and peptide hormones.

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МОРФОЛОГІЧНІ ПОКАЗНИКИ РЕПРОДУКТИВНИХ ОРГАНІВ СВИНЕЙ ПОРОДИ ВЕЛИКА БІЛА

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Гормональна та генеративна функція яєчників у свиней формується повністю лише до 6-7-місячного віку. За морфологічними параметрами генеративні органи свиней породи велика біла різного віку мають певні особливості. Особливості ці мають прямий зв'язок із ростом та розвитком тварин у процесі онтогенезу. На розвиток всіх органів репродуктивної системи тварин впливають гіпофіз та гонади, що виробляють стероїдні та пептидні гормони. У той же час, статевий цикл суттєво відрізняється від цього періоду у одноплідних тварин. Це має прямий зв'язок з кількістю фолікулів під час статевого дозрівання. Ріст всіх органів репродуктивної

системи самок тісно пов'язані з яєчниками, станом здоров'я організму свиней, нормованою годівлею тварин, кількістю потомства та його масою.

У новонароджених свинок яєчники гладенькі овальної форми, на їх поверхні не видно фолікулів. Розмір їх в діаметрі до 9 мм, маса ж одного яєчника досягає майже 15 мг. Зміна маси та форми яєчників пов'язана з великою кількістю фолікулів різного розміру. Форма яєчників змінюється внаслідок виступу фолікулів на їх поверхню.

Що стосується інших відділів статеві системи (маткові труби, матка, роги матки, шийка матки, піхва та присінок), то вони теж мають тенденцію до поступових вікових змін.

У новонароджених свинок маткові труби мають довжину до 8 см та діаметр в середній частині - до 3 мм. В той час, як у 7-ми місячному віці - довжина маткових труб збільшується до 24 см, але діаметр в середній частині залишається без змін.

У новонароджених свинок тіло матки має розміри приблизно до 1,5 см і збільшення його проходить поступово. Так, у 7-ми місячному віці тіло матки набуває розмірів до 4,8 см. У свинок всіх вікових груп тіло матки без різких змін переходить у шийку матки, а шийка матки, в свою чергу, теж без різких ознак переходить у піхву. Так, у новонароджених свинок шийка матки має розміри до 5 см, а у 7 ми місячному віці розміри збільшуються до 17,5 см. У новонароджених свинок піхва має довжину 3 см, а у 7-ми місячному віці її розмір збільшується до 10,5 см.

При дослідженні зовнішніх статевих органів свинок не знайдено змін в будові.

Ключові слова: *велика біла порода свиней, репродуктивні органи.*