

Caesarean section in the female rabbit presenting a difficult delivery

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Warning: this file contains pictures that may be distressing for people.

Pregnant females rarely present a problem unless they are stressed or exposed to a stressful environment. This can lead to complications like toxemia or anorexia. Abortion is rare in rabbits and is only observed after the 24th day of pregnancy.

The presence and the number of developing fetuses can be established around the 10th day of pregnancy. At this period of time, they form small grape-sized masses in the ventral abdomen. At a later time, it becomes difficult to differentiate the fetuses from the surrounding intestine and other organs.

The gestation period lasts between 29 and 32 days, exceptionally 35 days. Parturition is rapid and lasts generally not longer than 30 minutes. In exceptional cases, the interval of delivery of the fetuses is over an hour and the female is found straining. Medical assistance is needed at this stage.

Caesarian section procedure

The presence of retained fetuses can be determined by palpation, ultrasound or X-ray.

If no physical obstruction is diagnosed, the delivery can be activated by administration of calcium and oxytocin (1-2 IU/kg, IV, IM). If a blockage or narrowing of the birth passage, an abnormal size, shape, or position, of the fetus (dystocia) or uterine inertia is diagnosed, caesarean section is the sole option.

The procedure is uncomplicated, but needs to be done fast, to avoid asphyxia of the fetus(es). The female rabbit is placed in dorsal recumbency, with the head slightly elevated. A surgical midline incision is made into the abdominal cavity (laparotomy). The gravid uterus can be easily located and can be quickly exteriorized in order to deliver the fetus(es).

Recovery of the doe is generally uneventful.



To avoid future problems of unwanted litter and health problems for the doe, an ovariectomy surgery is recommended. This surgical procedure is done under general anesthesia, in a sterile environment, with sterile surgical instruments and a preparation of the skin. Indeed, any post-surgical infection becomes a medical emergency.

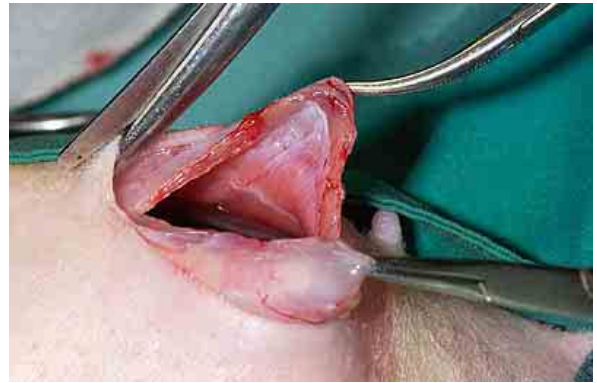
For more detail of the spay surgery: "[Female reproductive tract and ovariectomy](#)"

Pictorial midline caesarian section



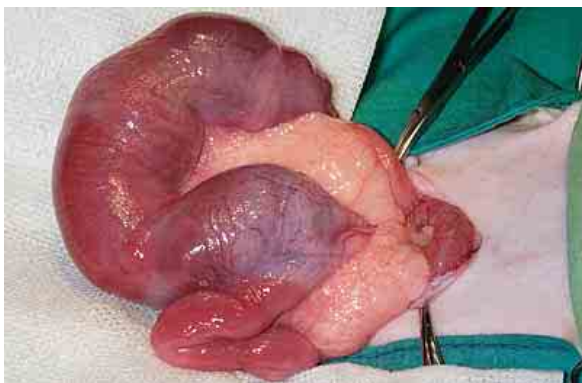
1

A 1 to 3 cm midline incision is made through the shaved and cleaned skin, between the xiphoid sternum and the cranial rim of the pelvis. The enlarged mammary glands and their supplying blood vessels must be avoided



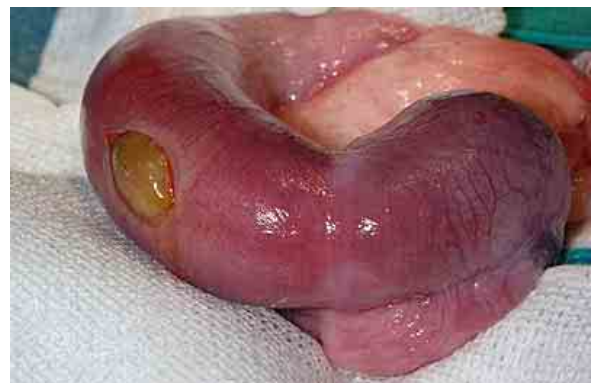
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The body wall is elevated with forceps, to avoid damaging the underlying thin walls of the cecum and the bladder.



3

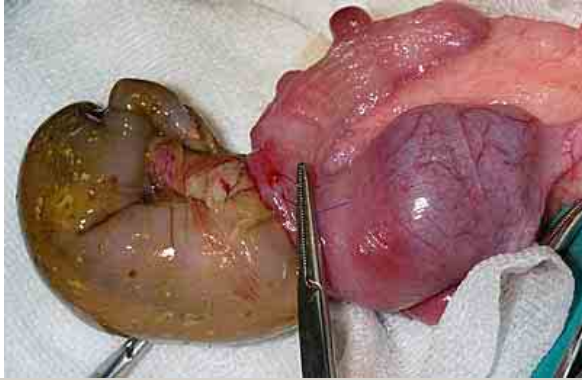
The gravid uterus is located and exteriorized through the incision by gentle traction on the organ. The fetuses are located.



4

The fetus located closest to the cervix, is removed first, by an incision through the uterus. Great care must be taken, not to hurt the fetus.





5

The fetus is carefully extracted from the uterus, together with its placenta.



6

View of the exteriorized fetus, partially inside its fetal membrane and still connected to its placenta by the umbilicus.



7

The umbilicus is clamped; the membranes are taken away, and the fluid cleared from the oral and nasal regions.



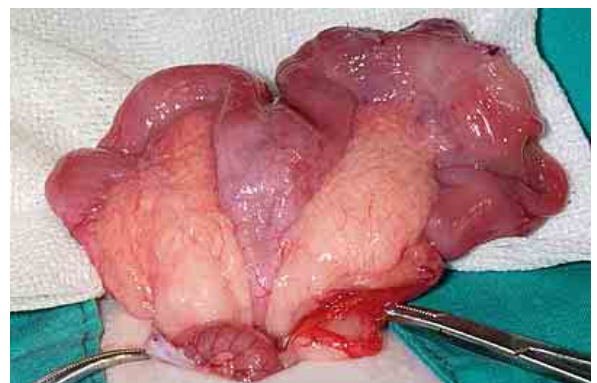
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Once the newborn has been dried with a towel, it is gently massaged, in order to stimulate respiration.



9

The uterine wall is sutured, using a two-layer continuous inverting pattern.



10

Note the rich amount of fat surrounding the reproductive organs.



Karen Comish

9

The incision is closed by placing sutures up to the skin level. Some surgeon's recommend suturing or gluing the subcutaneous tissues with acryl amide based products.

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Doe feeding her week old kitten.

Post-surgical care

If uterine contraction were not observed during the caesarian section, the administration of oxytocin (1-2 IU/kg, IM, IV) can help stimulate contractions and milk production.

The administration of pain medication during several days after the surgery is highly recommended. Pain indeed induces hormonal, and physiological responses, which slow down the activity of the digestive tract, delay food intake and recovery.

The presence of blood in the urine during 24 to 48 h post-surgery is sometimes observed.

Acknowledgement

All pictures used in these texts are from VEIN (Veterinary Exotic Information Network, <http://vein.ne.jp/>). Many thanks are due to Akira Yamanouchi, for giving me the permission to use them and to Karen Comish (Israel), for the picture of her rabbits.

Further Information

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MAI 2004

