

Ectopic pregnancy and the next fertility in a chinchilla: a case report

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Summary

Ectopic pregnancy has been described in humans and different animal species, among them in pet, farm and laboratory animals. This phenomenon is also known in rodents; in chinchilla, however, it is recognized only sporadically. In the present case a 5-year-old female chinchilla was brought to the clinic because of prolonged gestation. During clinical examination the poor health of the animal was determined, including anorexia, lethargy and apathy. An enlarged abdomen was also visible. Ultrasound examination of the abdomen revealed the spherical structure of non-homogenous echogenicity with hyperechogenic areas typical for bone tissue. The X-ray examination showed a mineralized fetal skeleton. A dead fetus was identified. Ventral midline laparotomy was performed under general anesthesia using medetomidine, butorphanol and ketamine. In the abdominal cavity an encapsulated spherical mass without connection to surrounding internal organs was found. A significant volume of dense puss and a developed dead fetus were removed from the body. The uterus seemed to be intact, without visible damage. The body weight of the animal was 918 g before surgery, and 517 g afterwards. The fetus's prenatal status was suspected. It appeared to be initially developed inside the uterus and later came out due to uterus rupture into the abdominal cavity where it was encapsulated in the following period. Seven months after the surgery the next pregnancy was diagnosed. The presented case has confirmed the possibility of ectopic pregnancy in this animal species with the ability of fertility afterwards.

Key words: ectopic pregnancy, chinchilla, fertility

The average length of pregnancy in chinchillas amounts to 111 days, which is a very long time period for rodents. They usually carry 1 to 4 (mostly 2) fetuses. Complications during pregnancy are relatively rare. If a fetal death occurs, clinical signs of the illness may be a result of retention of tissues in the uterus, which may lead to bacterial contamination and metritis. A fetus that dies late in gestation may be aborted or remain within the uterus and sometimes become mummified. Spontaneous abortion can occur at any stage of gestation due to poor nutrition, a concurrent illness, stress, septicemia, trauma, such as from a fall, and unskillful palpation or interruption of the uterine blood supply. Pregnancy loss generally goes unnoticed. The most common sign of the condition is bloody or purulent vaginal discharge.

Ectopic pregnancy has been described in humans and different animal species, among them in pet, farm and laboratory animals (1, 2). This phenomenon is also known in rodents; in chinchilla, however, it is recognized sporadically, only one case report in scientific literature was found (3).

The aim of this paper is the presentation of a rare case of ectopic pregnancy in a chinchilla and its implication for further fertility.

Description of the case and discussion

A 5-year-old chinchilla female was brought to the clinic later than the predicted time of parturition. In the past the female had given three litters with two newborns per each one. Clinical examination as well as diagnostic imaging techniques were used. During clinical examination the bad health of the animal was determined, including anorexia, lethargy and apathy. The abdomen was evidently enlarged. Ultrasound trans-abdominal examination revealed the spherical structure of non-homogenous echogenicity with hyperechogenic areas typical for bone tissue (fig. 1). The X-ray examination showed a mineralized fetal skeleton (fig. 2). The dead fetus was identified. In order to empty the uterine cavity, aglepristone (Alizine, Virbac, Carros Cedex, France) was administrated subcutaneously at a dose of 15 mg/kg twice, 24 hours apart. No abortion occurred and because of the worsened general status a laparo-

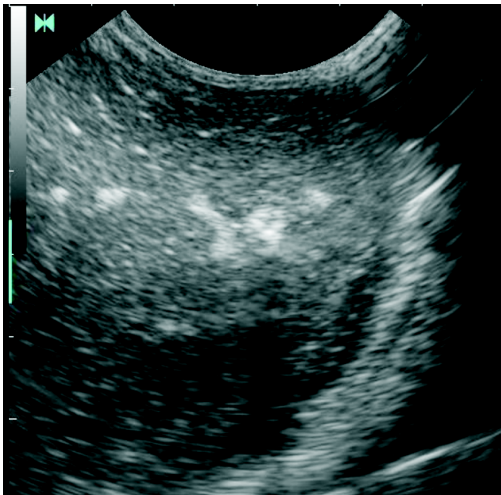


Fig. 1. Ultrasound image of the spherical structure of non-homogenous echogenicity

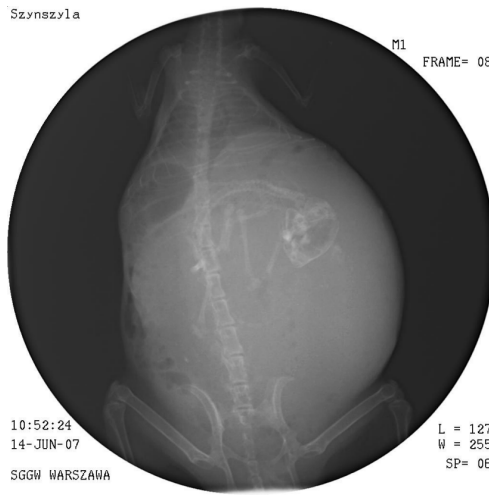


Fig. 2. X-ray image of the abdominal cavity – visible mineralized fetal skeleton

tomy was found to be indicated. The surgical procedure was performed under general anesthesia using medetomidine (Domitor, Orion Pfarma, Finland; 0.1 mg/kg), butorphanol (Butomidor, Richter Pharma AG, Austria; 1 mg/kg) and ketamine (Narkamon, Spofa, Czech Republic; 10 mg/kg). The ventral midline laparotomy approach was used to expose the region. During the operation an encapsulated spherical mass (10 cm in diameter) without connection to surrounding internal organs was identified in the abdominal cavity. The macerated mass was extracted. A significant volume of dense pus and a developed dead fetus were removed from the body (fig. 3). The uterus seemed to be intact, without visible damage (fig. 4). Ectopic pregnancy was finally diagnosed. The body weight of the animal was 918 g before surgery, and 517 g afterwards. The chinchilla recovered from anesthesia thirty minutes after the surgery without complications. On the next day after operation, the animal received food and water spontaneously. Enrofloxacin (Baytril, Bayer AG, Leverkusen, Germany) was administrated at a dose of 5 mg/kg intramuscularly for the following three days. After recovery the animal returned to the breeding colony cage, where a male was present. Seven months after the surgery the next pregnancy was diagnosed using ultrasound examination. In the subsequent six week period the female delivered two fetuses. One of them was well developed and alive, while the second was dead with signs of underdevelopment as the evidence of its predecease.



Fig. 3. A pus and a dead fetus removed from the body

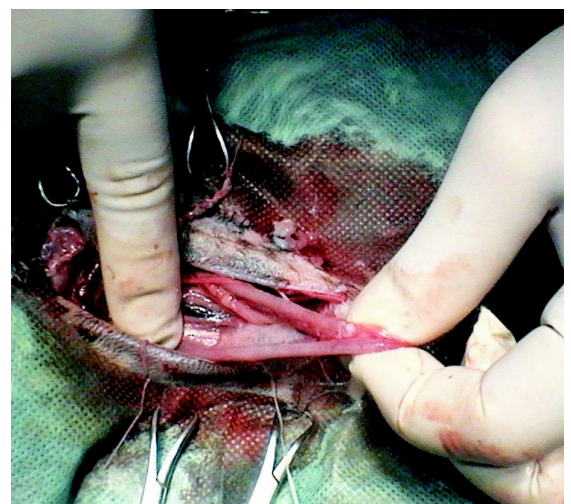


Fig. 4. Intact uterus *intra operationem*

Extrauterine pregnancy may be tubal or abdominal. Tubal pregnancy occurs when after fertilization the embryo remains and develops in the oviduct. This type is encountered in humans rather than in animals. Abdominal pregnancy occurs when an embryo develops in the peritoneal cavity. The abdominal pregnancy is divided into two forms: the primary form, when a fertilized oocyte or an early embryo enters the peritoneal cavity and becomes attached to the mesentery or other

organs, and the secondary form, which follows the rupture of an oviduct or the uterus in more advanced gestational period, and the fetus is expelled into the peritoneal cavity. It was not established how the ectopic pregnancy happened in the presented case. The fetus's prenatal status was suspected to be first developed inside the uterus and it later came out due to uterus rupture into the abdominal cavity where it was encapsulated in the following period.

The present case has confirmed the possibility of ectopic pregnancy in this animal species with fertility maintenance in the future.

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