DISORDERS IN THE REPRODUCTIVE TRACT OF RABBITS, RODENTS AND FERRETS

Fehr M, Lübke C, Voigt C
Hannover Veterinary University, clinic for small mammals, reptiles, birds, Germany

Introduction:

Disorders of the reproductive tract are common problems by medicating rabbits, rodents and ferrets. Typical reproductive diseases include dystocia, haemo-, pyo- or mucometra, estrogen toxicity, uterine prolapse, neoplasia, e.g. adenocarcinoma, adenoma and leiomyoma and ovarian cysts.

Ovarian neoplasia

Tumorous degeneration of the ovaries is much more common in gerbils than in rats and fancy mice. It is assumed that the reason for ovarian neoplasia is hormonal imbalances. Early Identification is particularly important as the increasing volume of tumors causes severe problems for the animal.

The animals become anorexic by displacing the intestinal loops. Finally, the waist circumference may increase significantly due to the tumor. Because of the mass in the abdominal area, weaknesses of the hindlimbs can occur, which can result in a self- destruction of these. Affected animals are infertile (3). Ultrasonography of the abdomen and radiological examination in two levels should be performed in order to make the diagnosis. The cytological examination of a fine needle aspiration can confirm the diagnosis. For the prognosis a radiographic examination of the thorax and a ultrasonography of the abdominal cavity are recommended. If metastases are already present, the prognosis is poor (1).

Ovarian neoplasia in rabbits are rarely reported. If they occur, they are usually granulosa cell tumors, hemangiosarcomas or lymphomas. The clinical signs are similar to those of the gerbils (1).

Ferret ovarian tumors are rarely seen in the clinic, because most ferrets are sterilized in early years (6). Most ovarian tumors of ferrets are leiomyomas, granulosa cell tumors, teratomas or stromal tumors. In most cases, tumors of the ovaries are only noticed in routine ultrasonography or in ovariohysterectomy. Only in severe cases, the ferret fox can show symptoms of hyperestrogenism, such as vulvar swelling, hormonal alopecia (a case which will be presented) and anemia. In case of permanent wreath and infertility, tumors of the ovaries should always be considered (4). An ovariohysterectomy can be curative, to date metastasis has not been described in cases of ovarian neoplasia treated surgically in ferrets (5).

Haemometra

Haemometra is a common disease especially in rabbits. A high level of sex hormones leads to increased secretion of the uterine glands and hyperplasia of the uterine mucosa in conjunction with increased blood flow to the uterine tissue. As a result, haemorrhages may occur in the uterine lumen of the hemometra and may appear as a bloody discharge from the vagina. However, haemometra can also occur in ruptured adenocarcinoma (2).

A quick diagnosis and a proper treatment plan are particularly important here, because the animals are usually very unstable due to the high blood loss and can bleed quickly. Ovariohysterectomy is the treatment of choice. Unless a ruptured tumor is the underlying cause, the long-term prognosis is good. If the animal has already lost a lot of blood, the prognosis is cautious (2).
Endometrial hyperplasia

The cystic endometrial hyperplasia is a common disease in rabbits older than three to four years. The cause is controversial, it has been suggested that a permanently high level of estrogen and progesterone leads to hyperplasia of the endometrial mucosa and glands. It is not known if cystic hyperplasia is a precursor to adenocarcinoma (1).

The typical clinical signs include lethargy, anorexia, intermittent haematuria and anaemia. In some cases, rabbits develop cystic mammary glands. On clinical examination a firm irregular uterus can be palpated. Ultrasonography and radiography will confirm the presence of an irregular uterus, but only ovariohysterectomy with subsequent histopathological examination of the uterus can provide the definitive diagnosis of hyperplasia (1).

Ovariohysterectomy is the treatment of choice.

Uterine neoplasia

Literature shows: The most common tumour of female rabbits is the uterine adenocarcinoma. In a study of Healty and Smith (2004) 50-80 % of the over three years old intact female rabbits had a uterine adenocarcinoma. The second most common uterine tumour in rabbits is the Adenoma (Saito et all; 2002). Less frequently found in rabbits are Leiomyomas or Leiomyosarcomas, but can occur also concurrently with an Adenocarcinoma. The cause of the tumorous degeneration is not known exactly, it is believed that the constantly high estrogen level on the uterine mucosa has a carcinogenic effect (1, 2). On the contrary an own unpublished study in 143 dwarf rabbits with ovariohysterectomy demonstrated different results which will be presented.

Affected rabbits often show reproductive abnormalities such as Infertility, fetal reabsorption, abortion, stillbirths, fetal retention and smaller litters. Later, when the tumourous disease progress, rabbits may become anorexic, anaemic and develop haematuria. In some cases rabbits can develop cystic mammary glands or partial urethral obstruction. Uterine tumors usually grow slowly, metastasize haematogen into the peritoneal cavity, lung, liver, brain and bone within one to two years.

The prognosis is poor, if there are already metastases in the lungs and the rabbits show dyspnoe or other signs of respiratory dysfunction. In most cases, the tumour can be already palpated in the caudal abdomen on the clinical examination. Ultrasonography of the abdomen and radiological examination in two levels should be performed in order to make the diagnosis and to identify metastases in the thorax and abdomen (1, 2). The own results also demonstrate that calcification of the uterus is an often finding

The treatment of choice is an ovariohysterectomy and if there has been no metastasis until then, this treatment is curative. Nevertheless, it should be kept in mind that early metastases often cannot be detected, especially peritoneal metastasis are usually not apparent on imaging or at surgery (1, 2).

Conclusion

Making an accurate diagnosis can be difficult in these species because most symptoms are not evident or unspecific, e.g. apathy or anorexia. Therefore, a thorough general examination and advanced diagnostics
like radiography, ultrasound or blood tests are necessary for classifying symptoms and estimating the prognosis of patients correctly.

References

4. Fehr M, Ewringmann A, Warschau M, Frettchen, Enke Verlag, 2014,