

Reproductive Disorders in Pet Rodents



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KEYWORDS

- Rodent • Rat • Mouse • Hamster • Gerbil • Reproductive disorder
- Mammary gland

KEY POINTS

- Reproductive disorders are very common presentations in rodents; some of them can be an emergency, such as hemorrhagic vaginal discharge.
- Ovarian tumors are common in rats and mice; however, the prevalence of these tumors seems to be strain related.
- Although ovarian cysts are described in all small rodents, gerbils are more prone to this disorder, especially in animals older than 2 years of age.
- Uterine disorders are common in rodents. Pyometra and neoplasia are the most common problems, and ovariectomy is the best treatment.
- Rats can easily develop mammary gland tumors, especially fibroadenomas; because they have an extensive mammary tissue, these tumors rapidly grow and are enlarged masses.

REPRODUCTIVE DISORDERS IN PET RODENTS

The rodent order encompasses 5 phylogenetic suborders (based on *Systema Naturae* 200):

1. *Hystricomorpha*: relatives to guinea pigs and similar species, including chinchillas, degus, coypus, capybaras, porcupines, dassie rats, cane rats, African mole rats, agoutis, and pakas
2. *Myomorpha*: relatives to mice, including rats, hamsters, gerbils, kangaroo rats, kangaroo mice and dormice
3. *Anomaluromorpha*: such as springhaas and scaly-tailed squirrels
4. *Sciuravida*: relatives to gundis
5. *Sciuromorpha*: relatives to squirrels, including chipmunks, prairie dogs, marmots, and beavers

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The range of species sold as pets is increasing. Among them, the most common species kept as pets are guinea pigs, chinchillas, rats, hamsters, gerbils, squirrels, prairie dogs, degus, and mice. The intent of this article is to describe common reproductive diseases affecting small rodents, especially rats, mice, hamsters, gerbils, and others species, such as squirrels and prairie dogs. Unfortunately, literature is scarce in the last two species.

ANATOMY OF SMALL RODENTS

Small rodents have several reproductive anatomic features in common. Males and females can be easily identified. However, the sex identification can be more challenging in very young animals. Males have more distance between the genital papilla and the anus than females (Fig. 1). Females have a pair of small and nodular ovaries found in the fat caudal to the kidneys. The uterus is bicornuate, consisting of 2 uterine horns and a short uterine body that terminates at the vagina, except in rats. The rat uterus is duplex; it comprises 2 uterine horns that join together and open into the vagina via 2 separate cervixes. The vagina and the urethral orifices are completely separate. A clinician can easily differentiate discharge of reproductive tract origin from one of the urinary tract.¹⁻³

Adult male rodents possess a pair of testicles of a proportionately large size. The inguinal canal remains open throughout the life of the animal, like in rabbits and other rodents; the testes pass from the abdomen to the scrotum but can be retracted. A pair

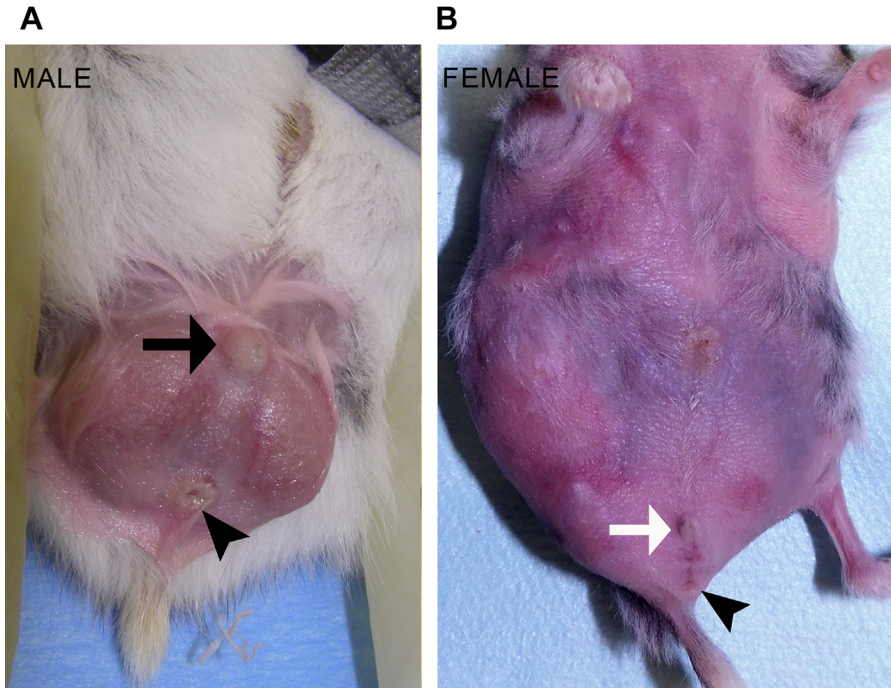


Fig. 1. (A) The male hamster anatomy. Dorsal recumbency. See the distance between the prepuce (black arrow) and the anus (black arrowhead) and the testicles. (B) The female hamster anatomy. Dorsal recumbency. See the short distance between the genital papilla (white arrow) and the anus (black arrowhead). (Courtesy of Jaume Martorell, Spain.)

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