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DE cuteological Conditions of Rodents and Rabbits

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Rodents and rabbits make up a significant and increasing part of small animal veterinary practice. Skin disease is a common reason for presentation, as it is easily noticed by the owner, even in species that are not regularly handled.

Mice
Fur mites (Myobia musculi, Myocoptes musculinus and Radfordia affinis) can cause pruritus, alopecia and self-trauma. Treatment is with ivermectin or selamectin. Secondary bacterial dermatitis and abscesses as a result of self-trauma or fight wounds are commonly seen. Trichophyton mentagrophytes can be asymptomatic or cause hair loss and well-demarcated crusty lesions. Treatment is with oral griseofulvin or enilconazole wash.

Rats
Radfordia ensifera (rat fur mite) causes warty, papular lesions on the pinnae, nose and tail, and occasionally self-trauma. Other rarer mites are Ornithonyssus bacoti, Sarcoptes scabiei, Trixacarus diversus, Trixacarus caviae, Myobia musculi and Demodex sp. Treatment is ivermectin. Polyplox spinulosa, the spined rat louse, is rarely found in pet rats but can cause pruritus, dermatitis and anaemia, especially in young or debilitated animals. Treatment is ivermectin or topical fipronil or selamectin. Staphylococcus aureus can cause an ulcerative dermatitis in rats, typically over the shoulders and neck, and can lead to severe self-mutilation. Obesity, poor cage hygiene or wire mesh floors can lead to ulcerative pododermatitis. Treatment is often unrewarding and involves addressing the underlying cause, systemic antibiotics, non-steroidal anti-inflammatory and analgesia. Dermatophytosis due to Trichophyton is rare. Cutaneous neoplasia is also rare, but almost all types have been reported. Squamous cell carcinomas and papillomas are the most common. Barbering is uncommon but fight wounds can occur between adult males. The fur of aged male albino rats becomes yellow and coarse due to increased sebaceous secretions under androgenic control. Brown skin scales on the dorsum and tail are often seen in older males.

Gerbils
Ectoparasitic infestations are uncommon. Demodex meroni causes alopecia, scaling and focal ulcerative dermatitis with secondary bacterial infections. Treatment is amitraz or ivermectin. Other ectoparasitic infestations include the fur mites Acarus farris and Liponyssoides sanguineus. Nasal dermatitis (‘sore nose’, ‘facial dermatitis’) is common, particularly in group housed animals stressed by overcrowding and high humidity levels. Small focal areas of alopecia and crusting around the nares may progress to the face, medial forelimbs and abdomen. Hypersecretion of the Harderian gland and accumulation of porphyrin pigment around the nares is irritant and leads to self-trauma and secondary staphylococcal infection. Improving husbandry, environmental temperature and humidity (< 50%) and provision of a sand bath will all help. The large ventral abdominal sebaceous gland frequently becomes inflamed, ulcerated and infected. Early neoplastic changes appear similar. Total gland excision is recommended. Cystic ovaries are common in older females (50% incidence over 400 days old). Symmetrical alopecia and poor coat quality is seen, with abdominal distension and dyspnoea in severe cases. Ovariohysterectomy is curative, but drainage by fine needle aspirate (FNA) may give temporary relief. Hyperadrenocorticism has been reported. Cutaneous neoplasia is relatively common, especially tumours of the ventral scent gland. Other neoplasms include melanomas, melanocytomas, squamous cell carcinomas, papilloma, subcutaneous fibrosarcoma and mammary gland adenocarcinoma. Barbering may occur if gerbils are housed in large groups. ‘Bald nose’ is associated with rubbing on wire cage feeders and cage bars. ‘Tail slip’ occurs when the tail is grasped and the skin degloves. Amputation proximal to the injury site is necessary. If the relative humidity exceeds 50% gerbils will become ‘starey’ coated.

Hamsters
Demodex criceti inhabits the keratin and pits of the epidermal surface, and Demodex aurati the hair follicles. Alopecia and dry scaling without pruritus are
precipitated by concurrent disease, immunosuppression or ageing. Treatment is with amitraz or ivermectin. Other mites include *Notoedres totoedes*, and *Notoedres cati*. *N. totoedes* produces scabby lesions around ears, nose, feet and perianal area. Both respond to ivermectin. Staphylococcal pyoderma is relatively common. Dermatophytosis (*Trichophyton mentagrophytes*) is rare. Primary and secondary and iatrogenic hyperadrenocorticism have been reported, causing bilateral symmetrical alopecia, skin thinning and hyperpigmentation, polyuria/polydipsia (PU/PD), polyphagia and behavioural changes. Melanomas, melanocytomas and epitheliotropic lymphoma are the most frequently reported cutaneous neoplasms. Hamster papovavirus is thought to be the cause of transmissible lymphoma and cutaneous epitheliomias in hamsters.

**Guinea pigs**

*Trixacarus caviae* causes intense pruritus and severe self-trauma. Secondary bacterial infection is common. Chronic infection leads to lichenification and hyperpigmentation, crusts, scales and alopecia. Any stressor (concurrent disease, hypovitaminosis C, old age) can trigger clinical disease. Treatment is with ivermectin. *Chiridioscoides caviae* (fur mite) can cause pruritus and alopecia in heavy infestations. *Glincola porcelli* and *Gyropus ovalis* (lice) are commonly found. Heavy infestations will cause pruritus and alopecia especially around the ears. *Cheyletiella parasitivorax* occasionally produces pruritus and scaling along the dorsum. *Demodex caviae* rarely causes alopecia, erythema, papules and crusts. *Staphylococcus aureus* can cause erythema and exfoliation of the epidermis due to cleavage through the stratum granulosum. Staphylococcal cheilitis, secondary to the feeding of abrasive or acidic foodstuffs, is also seen.

Pododermatitis is relatively common in guinea pigs. Obesity, poor hygiene, hypovitaminosis C, and wire flooring are predisposing factors. Treatment with topical antiseptics, systemic antibiotics and bandaging is often unsuccessful, and systemic amyloidosis can occur. Dermatophytosis is common (*Trichophyton mentagrophytes*) causing non-pruritic scaling and alopecia. Occasionally, more inflammatory pruritic pustules, papules and crusts occur. Cystic ovarian disease is common in aged female guinea pigs (76% incidence between 1.5-5 years old). Initially cysts may be asymptomatic, however as they increase in size, non-pruritic bilateral symmetric alopecia develops. Abdominal enlargement and infertility may be evident. Cysts are usually bilateral and painful on palpation. Ovariohysterectomy is indicated, but percutaneous drainage or HCG may provide temporary relief. Hair loss due to telogen defluxion is commonly seen in breeding sows, and reverses following parturition. Early cutaneous signs of hypovitaminosis C are roughened hair coat, and scaling of the pinnae. Trichofolliculoma is the most common cutaneous neoplasm. Sebaceous adenoma, fibroma, fibrosarcoma, lipoma, liposarcoma, schwannoma and lymphoma have all been reported. Fur chewing and barbering and ear chewing are associated with a lack of dietary fibre, stress or overcrowding. Cheilitis is usually associated with the feeding of acidic and abrasive foodstuffs. Secondary staphylococcal infection is common, and a poxvirus has been found in two animals. Packing the ulcers with Orabase® (Squibb) aids healing. Stressed or ill guinea pigs frequently shed large amounts of hair. Hyperkeratosis and cutaneous horns can develop on the footpads.

**Chinchillas**

Ectoparasites are rare, but *Cheyletiella* spp have been reported. Abscesses are common following bite wounds from cage mates and inspissation of pus means that surgical excision is recommended. Rough handling or fighting will lead to shedding of patches of fur ('fur slip'). Fur chewing and barbering is occasionally seen and may be related to overcrowding or another stressor. The provision of a dust bath is important in keeping a chinchilla’s coat in good condition.

**Rabbits**

*Cheyletiella parasitivorax* causes crusting and scaling along the dorsum, mild pruritus and partial alopecia in heavy infestations. Treatments include ivermectin, selamectin, or topical permethrin products. *Psoroptes cuniculi* (ear mite) causes head shaking, scratching, hyperaemia, and thick crust formation. Lesions can spread to the face and neck, and the eardrum can perforate leading to otitis media/interna. Treatment is ivermectin or moxidectin. *Demodex cuniculi* is rarely found, and affected rabbits can show variable pruritus. *Sarcoptes scabei* var *cuniculi* and *Notoedres cati* var *cuniculi* are occasionally reported. *Spilopsyllus cuniculi* (*‘stick-fast’* flea) is important as a vector for myxomatosis. Cat fleas can occasionally live on rabbits. Treatment is as for dogs and cats. Imidacloprid and selamectin are effective treatments. Adverse reactions to fipronil occur and it should not be used. *Haemodipsus ventricosus* (rabbit louse), can cause anaemia and pruritis. Many species of tick can parasitise rabbits and cause anaemia. Pysstrike is common in summer months. In the UK it is caused mainly *Lucilia* spp. attracted by caecotroph accumulation, diarrhoea or urine scalding. Treatment involves clipping the fur and flushing, with manual removal of maggots. Supportive therapy should be given immediately for toxic shock (warmth, fluids, corticosteroids) and antibiotic cover. Topical silver sulfadiazine cream may be used. The underlying cause of the caecotroph or urine...
accumulation must then be addressed. Cyromazine is licensed for prevention of flystrike and permethrin spot-on products can also be used. *Cuterebra* spp. larvae can affect rabbits, causing fistulous nodules. Larvae should be individually removed. Tapeworm cysts (*Coenurus serialis*) cause fluctuant subcutaneous swellings, which can be surgically removed. *Trombicula autumnalis* mites can be found on outdoor rabbits causing intense pruritus, macules and pustules. Abscesses are common (*Pasteurella multocida, Staphylococcus aureus, Proteus, Pseudomonas, Bacteroides* and other bacteria). Facial abscesses are invariably secondary to dental or nasolacrimal duct disease. Abscesses are best treated by surgical excision. Acute cellulitis is usually due to *Staphylococcus aureus* or *Pasteurella multocida*. Signs are painful oedematous skin swelling, pyrexia, depression and anorexia. Treatment consists of aggressive antibiosis and supportive care. Lesions may mature into an abscess or a necrotic eschar *Pseudomonas aeruginosa* ‘moist dermatitis / blue fur disease’ is common in overweight and female rabbits with a large dewlap, or in severe dental disease with hypersalivation. *Treponema cuniculi* (rabbit syphilis, venereal spirochaetosis) causes redness, oedema, vesicles, ulcers, scabs and proliferative lesions around the perineum, and face (autoinoculation). Overt disease is precipitated by stress. Treatment is with penicillin G. *Necrobacillosis* (Schmorl’s disease) is caused by faecal contamination of wounds by *Fusobacterium necrophorum*. Swelling, inflammation, abscessation, ulceration and necrosis occur. Treatment involves debridement and antibiosis. Dermatophytosis in outdoor rabbits is usually caused by *Trichophyton mentagrophytes*, whereas *Microsporum gypseum* and *M canis* are more common in house rabbits. Myxomatosis (a pox virus) causes oedema of the head, ears, eyelids and genitalia, a milky oculonasal discharge, and later diffuse oedematous cutaneous swellings. Prevention is by vaccination and vector control. If vaccinated animals contract the virus they have less severe clinical signs and often survive. Severe cases should be euthanased. Plantar pododermatitis (sore hocks) is seen in overweight inactive rabbits kept on wet bedding or grid floors. Rex rabbits are also prone. Treatment involves debridement, topical and systemic antibiotic therapy and the application of dressings. Barbering and excessive grooming can occasionally occur. Self-barbering may occur in does in oestrus or rabbits on a low fibre diet. Compulsive self-mutilation has been seen as a genetic problem and subsequent to intramuscular ketamine and xylazine. Cutaneous lymphoma has been described; other neoplasms reported are carcinoma, squamous cell carcinoma, sebaceous gland carcinoma, and sarcoma. Eosinophilic granuloma, sebaceous adenitis, and cutaneous ashenia have been reported. Raised irregular reddened skin patches during hair growth can occur as rabbits age due to increasing follicular size and enlargement of the cutaneous vasculature during anagen. Dermal fibrosis has been reported in two entire male rabbits exhibiting cutaneous thickening on the dorsum and may be hormonally related.

**Further reading**