Ringworm in Hedgehogs

Agent

Ringworm is the common name used to describe some fungal skin diseases in mammals. The most common agent responsible for ringworm in the hedgehog (*Erinaceus europaeus*) is a dermatophyte (skin fungus) called *Trichophyton erinacei*. Other dermatophytes known to cause ringworm in hedgehogs include *Microsporum canis*, *Microsporum gypseum, Microsporum cookie* and *Trichophyton schoenleinii*.

Signs of disease

A survey of British hedgehogs found *Trichophyton erinacei* to be carried by 25% of hedgehogs and infection was often subclinical (*i.e.* there was no visible skin disease). When affected by ringworm, hedgehogs may have spine or hair loss (spines in the diseased area may be loose or fall off), scabs or scurf in patches along the border of the skirt at the spine/hair margin, and cracked crusty skin (particularly on the head and face). In hedgehogs with long-standing (chronic) disease, the ears may be thickened, dry, and crusty, with crumbling edges.

The severity of the disease varies widely from mild localised skin lesions (diseased areas) to large-scale spine/hair loss. In these severe cases, spread of the disease over the body may have taken place over a period of several weeks to months. Secondary infections (*i.e.* additional skin infections) with mites and bacteria are common. Hedgehogs with ringworm might show signs of skin irritation and weight loss, but other affected hedgehogs can be in normal body condition and show little sign of skin irritation, even in severe cases.

Figures 1 and 2. Photos showing a wild hedgehog with ringworm. Note the areas of hair loss around the eye and spine loss over the back and skirt area. (Photo credit: Ricardo Sá.)

Disease transmission

The transmission of ringworm occurs through direct contact with the fungal spores. Hedgehogs can become infected by interacting with another infected individual or by contact with a contaminated surface. Fungal spores have been found to survive for over a year in hedgehog nests. Infected hedgehogs and contaminated surfaces, such as feeding areas and nests, can be sources of ringworm infection.

Distribution

Ringworm dermatophytes are widely distributed in the United Kingdom, continental Europe and other parts of the world. Hedgehogs have been diagnosed with ringworm from across Great Britain.

Risk to human health

Ringworm is a zoonotic disease which means that it is transmissible from animals to humans. Hedgehogs have been recognised as a source of infection for human ringworm since the late 19th century. People can become infected through direct contact with an infected hedgehog or with a surface contaminated with fungal spores. This can happen through handling an infected hedgehog or touching a contaminated surface/bedding without gloves.

Ringworm is probably the most common zoonosis to be passed from hedgehogs to hedgehog carers in rehabilitation centres. In humans it causes itchy and scaly skin that can spread rapidly. It can progress from thickened skin with small fluid-filled blisters to an eczema-like skin scaling that may become secondarily infected by bacteria.

Risk to domestic animal health

Several species of fungi known to cause ringworm in hedgehogs can also affect domestic pets; however dogs and cats are more commonly infected by other types of ringworm fungi. For infection with hedgehog ringworm, direct contact with an infected hedgehog or a contaminated surface is necessary. In domestic pets (*i.e.* dogs and cats), ringworm lesions are normally observed as patches of hair loss that can become itchy and scaly and can spread if left untreated.

Diagnosis

Laboratory tests under the direction of a veterinary surgeon are required to confirm a diagnosis of ringworm in hedgehogs since other diseases, such as mite or bacterial infection of the skin, can cause skin lesions with a similar appearance.

If you wish to report finding a dead hedgehog, or signs of disease in hedgehogs, please visit www.gardenwildlifehealth.org. Alternatively, if you have further queries or have no internet access, please call the **Garden Wildlife Health** vets on **0207 449 6685.**

Prevention and control

Whilst medicines are available for the treatment of ringworm infection in captive mammals, effective and targeted dosing of wild hedgehogs under field conditions is not possible. Environmental control is also not possible for this disease.

In order to minimise the chances of being infected with ringworm, only handle hedgehogs when absolutely necessary and, when doing so, use thick gardening or rubber gloves. Always wash your hands and forearms thoroughly with warm water and soap afterwards. Hedgehogs are also known to carry other infectious agents, such *Salmonella*, that can affect people, therefore routine hygiene precautions are always recommended.

Staff in wildlife rehabilitation centres and hedgehog carers should be aware of the need for hygiene precautions and how to identify skin disease suggestive of ringworm in hedgehogs and people. If anyone suspects that they might have caught ringworm, they should seek medical advice for appropriate treatment.

Further information

Robinson, I. and Routh, A. (1999) Veterinary care of the hedgehog. *In Practice* **21(3)**: 128-137. doi:10.1136/inpract.21.3.128.

Robinson, I. and Bexton, S. (2003) Hedgehogs. *In* BSAVA Manual of Wildlife Casualties. Mullineaux, E., Best, D. and Cooper, J. Eds.. BSAVA, pp. 49-65.

More advice on hedgehogs in your garden can be found on the Garden Wildlife Health website www.gardenwildlifehealth.org.

Scientific publications

English, M.P. and Morris, P. (1969) *Trichophyton mentagrophytes* var. *erinacei* in hedgehog nests. *Medical Mycology* **7(2):** 118–121. doi:10.1080/00362177085190211.

Philpot, C.M. and Bowen, R.G. (1992) Hazards from hedgehogs: two case reports with a survey of the epidemiology of hedgehog ringworm. *Clinical and Experimental Dermatology* **17(3)**: 156–158. DOI: 10.1111/j.1365-2230.1992.tb00193.x.

Piérard-Franchimont, C., Hermanns, J.F. Collette, C., Piérard G.E. and Quatresooz P. (2008) Hedgehog ringworm in humans and a dog. *Acta Clinica Belgica* **63(5):** 322–324. http://www.ncbi.nlm.nih.gov/pubmed/19186564

Acknowledgements

Current funding for the GWH comes in part from Defra, the Welsh Government and the Animal and Plant Agency (APHA) Diseases of Wildlife Scheme (DoWS) http://ahvla.defra.gov.uk/vet-gateway/surveillance/seg/wildlife.htm ; and from the Esmée Fairbairn Foundation and the Universities Federation for Animal Welfare.

Date of last update: February 2018