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An Overview of *Ctenocephalides felis*

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ABSTRACT

The cat flea is a very small organism but creates a big problem for cat and cat owners. By affecting the health of the cat and their owners. They are very ductile hard and not easy to kill but they will make your life trouble so their control is necessary for the health of both owner and cat. It is not only uncomfortable and distressing for infested animals, but these ectoparasites are also zoonotic risk factors, spreading diseases such as Bartonella and Rickettsia.

Introduction:

Flea which is the most common ectoparasite in pets such as cats and dogs. But it doesn't stop there the owner of the pet can also be affected by this parasite so their control is necessary for the health of both the owner and the pet. The most common host of this parasite is the cat and the species that affects it is *Ctenocephalides (C.) felis* which can cause *Bartonella henselae* (cat-scratch disease) and *Rickettsia felis* (*Feline rickettsiae*). Showing an allergic reaction in the owner. Ticks have a strong exoskeleton and they can jump from one cat to another. We can identify *C. felis* by its pronotal ctenidium and a genal ctenidium with more than five teeth (1, 5).

Life cycle

The Flea has 4 stages in its life cycle including egg, larvae, pupa, and adult. The life cycle starts with the egg-laying of a female flea. After feeding blood from the host female Fleas can lay up to 20 to 50 eggs per day so that's the reason why their infestation is so quickly. Flea eggs are white and can be seen on animals' bodies, animal bedding, and other things in the house even in the bed of owners. They hatch in 2 to 5 days after getting moderate temperature and environment and the next stage of the life cycle which is larvae start. Flea larvae hide them in dark places and they feed on flea specks of dirt after 1 to 2 weeks the larvae turn themselves into pupa. They wait until a moderate environment arrives and a host is found nearby so they convert into the final stage called adult Flea and from there the next life cycle starts.

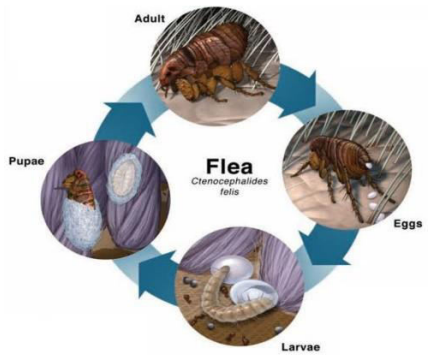

Figure explaining the life cycle of *Ctenocephalides felis*

Epidemiology

The mortality rate of *C. felis* is very low may be zero but it makes the immune system of the host very weak by feeding on their blood and by itching they can cause hair to lose scratches on the body they spread from one host to another by jumping, pet to humans or human to the pet or by infected bedding or by the interaction of cats with other infected cats or their owners (4, 6). A zoonotic transmission epidemiological study involves understanding which zoonotic pathogens are carried by fleas, such as Bartonella species, and assessing the risk of human transmission.

Disease

C. felis can cause itching to the body, anemia, *Bartonella henselae* (cat-scratch disease). Hair loss and it can also transmit *Coxiella burnetii* which is the causative agent of Q fever in cats by scratching they expose the skin to other pathogens (2). Bacterial and viral infections can occur by entering from the scratched body and they can also be harmful to the owners

Sign and symptoms

In case of flea infestation, pepper-like black specks on the pet's skin coat or bedding may be observed which appear as a result of flea feces. Additionally, many light-colored specks on the pet's hair coat or bedding may be observed which are eggs of fleas. Animals may experience itching on the skin and excessive scratching on the skin due to the bites of fleas. Alopecia may also be observed as a result of itching especially, near the neck and tail. In severe cases, animals may experience anemia due to blood loss caused by the fleas.

Treatment and prevention

The affected cat can be treated by using imidacloprid or fipronil. We can also use antiallergics to relieve the cat from itching (3). We can protect the cat from this flea by washing its bedding bathing the cat at a regular time deworming of cat on schedule and limiting its interaction with other cats. Pesticide sprays, antiparasitic creams, and antiparasitic pills may be used after every 3 months.

Conclusion

By providing a clean environment, and proper deworming of the cat after every 3 months. By bathing the cats you can protect yourself and your cats from itching, hair loss allergies, and restlessness you can use preventive measures to stop their spread.

References

[1] Rust MK. A review of the biology and ecology of cat fleas, along with advances in their management. A review. Insects. 2017; 8:51.
[2] Chomel BB, Kasten RW, Floyd-Hawkins K, Chi B, Yamamoto K, Roberts-Wilson J, et al. A cat flea can transmit Bartonella henselae in an experimental setting. J Clin Microbiol. 1996; 34:1952–6.
[3] Brown LD, Macaluso KR. Rickettsia felis, an emerging flea-borne rickettsiosis. Curr Trop Med Rep. 2016; 3:27–39.
[4] Pests and vector-borne diseases in the livestock industry, 1695-1702, 2018
[5] Ferreira FC, Fonseca DM, Hamilton G, Price DA metagenomic analysis of cat fleas that bite people in the Northeast US reveals an emerging zoonotic pathogen. Sci Rep. 2020; 10(1):1-8.
[6] Carmichael JR, Fuerst PA. A rickettsial mixed infection in a Dermacentor variabilis tick from Ohio. Ann NY Acad Sci. 2006; 1078:334–7.

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