

## Oral Presentation (SA-13)

**Scabiosis (*Notoedres cati*) in Cat**Miyayu Soneta Sofyan<sup>1</sup>, Muhammad Herry Susanto<sup>2</sup>, Muhammad Ulin Nuha<sup>3</sup><sup>1</sup>Health Departemen Faculty of Vocational Airlangga University, Srikana 65 Surabaya 60286, Indonesia<sup>2</sup>Intimedipet Clinic Jl Baratajaya 2 No 52 Surabaya 60284<sup>3</sup>Co-assistant Faculty of Veterinary Medicine Airlangga University

\*Email: miyayu@vokasi.unair.ac.id

**Keywords:** cat, ivermectin, *Notoedres cati*, scabiosis.**INTRODUCTION**

Feline scabies also referred as *Notoedric mange* (*Notoedres cati*). This disease is highly contagious skin disease. The symptom of this disease is a severe and relentless itch include a skin rash composed of small red bumps and blisters on the specific areas such as face, ear, neck, paws pads and spreading to the rest of the body. This disease was very contagious for cats and kittens which can opportunistically infest other mammals, including human (Griffin et al., 1993).

*Notoedres* mites are closely related to *Sarcoptic* mites of dogs and thus the two infestations have some similarity. Both the conditions typically begin with itchy crusts and scales on the ear margins. The *Notoedric* mange progresses to involve the face and ultimately covers the entire body, if the skin disease was ignored. (Scott et al., 2001). Three cats in the present study had mange lesions covering the entire body.

The characteristic itching and hair loss pattern was often all that was needed to diagnose *Notoedric* mange in the cat (Griffin et al., 1993). Scraping of the crusty skin examined, revealed all stages of *Notoedres cati* mite (from ova to adult) in the present study and confirmed the diagnosis. *Notoedres* mites are smaller than *Sarcoptes*, have 'thumb print'-like dorsal striations, shorter limb stalks and a dorsal anus compared with the terminal anus, dorsal pegs and spines seen on *Sarcoptes* species (Scott et al. 2001). The mites were identified as per the reports of Walker (1994) based on their shape and the presence of dorsal anus, which distinctly differentiated the *Notoedres cati* from *Sarcoptes* sp. The present report describes case of *Notoedric* mange I two cats and successful management with ivermectin therapy.

**MATERIAL AND METHODS****Case-1**

Seven month old domestic cat was brought to the Animal Hospital, Universitas Airlangga with a history of decreased food intake, an intense pruritus and a lot of ectoparasite in his body as an

owner complain. This cat was indoor cat and reared in and outside of the house. Clinical examination of cat revealed a quite high temperature 39.8°C. Physical examination revealed alopecia, erythema, scab and eczematous lesion on the face and legs. Superficial and deep skin scrapping were dissolved in KOH 10% solution and examined microscopically and revealed an adult live mites.



Fig 1: Lesion on the face Fig 2: Lesion on the leg

**Case-2**

A one year and three month old domestic cat was brought to the Animal Hospital, Universitas Airlangga with a history of scratching their body and more often at the night, lost appetite last three days. Clinical examination of cat revealed 38.6°C with emaciation condition and the fur were dirty and dull.

Physical examination found alopecia, erythema and scab around the eye, nose, ear, neck and paws. Pyoderma was also found near the eye, nose and neck. The skin scrapping for the laboratories diagnostic was revealed the *Notoedres mange*.



Fig 3: Lesions on the face



Fig 4: Emaciation and dullness of the cat.

### Treatment

The cats were treated with subcutaneous ivermectin injection with dose 0.1 ml/kgBW. The drug administration were repeated after 14 days. Drug effectiveness was assessed based on the clinical recovery and skin scrapping examination of post therapy. Post treatment clinical examination of cat on days 14, cat was totally free from pruritus and scab.

### DISCUSSION

Dermatitis ectoparasite was caused by the manifestation of *Notoedres mange*. This manifestation caused discomfort to the animal due to pruritus and make the cats scratching and pawing of the body and lead to secondary infections such as pyoderma. This manifestation can be eliminate by giving a single dose of injection ivermectine subcutaneous. Sasmita et al., (2013) The repeated dose after 14 days of first treatment are needed because the life cycle of notoedres mites were 9-12 days , hence the second treatment were to kill the next stage of mites.

The structural composition antiparasitic of ivermectin is (22,23-dihydroavermectin B<sub>1</sub>) is the most important structure because it has high potency against a broad spectrum of endo and ectoparasites of farm animals, many agricultural mite and insect pests (Campbell, 1989). Ivermectin is known to act on GABA neurotransmission at 2 or more sites blocking interneuronal stimulation of excitatory motor neurons, leading to flaccid paralysis. More recent evidence suggests that ivermectin may exert its effect through action on glutamate-gated Cl<sup>-</sup> ion conductance at the postsynaptic membrane or neuromuscular endplate (Adams, 2001).

Scott et al., (2001) Treatments commonly practiced included Selamectin 4 mg/kgBW, as a spot-on injection and injection of Ivermectin 200 µg/kgBW subcutaneously at weekly intervals or fortnightly for a month. Kumar et al., (2008) were given Ivermectin for 5 domestic cats per recommended doses showed a significant improvement after 14 days of treatments, the pruritus had resolved and no adverse reactions. The skin scrapings were examined and found negative.

All contact cats and kittens should be treated concurrently to avoid reinfestation. Notoedres is highly contagious to human, so transient zoonotic spread is possible, although clinical signs usually are self-limiting once the affected pets have been treated.

### CONCLUSION

The infected cats medicated with subcutaneous ivermectin injection with dose 0.1 ml/kgBW. The drug administration were repeated after 14 days. There was significant improvement was noticed by elimination of pruritus and complete clinical recovery along with absence of mites of skin scrapping.

### REFERENCE

- [1] Adams HR. 2001. Veterinary Pharmacology and Therapeutics, 8<sup>th</sup> edn, Iowa State University Press, Ames. Pp: 2025-1029.
- [2] Campbell WC. 1989. Ivermectin and Abamectin. Merck Institute for Therapeutic Research. Pp: 1-23.
- [3] Griffin C, Kwochka K, Macdonald. 1993. Current Veterinary Dermatology. Mosby Publications, Linn.
- [4] Kumar KS, Selvaraj P, Vairamuthu S, Srinivasan SR Kathiresan D. 2008. Ivermectine Therapy in The Management of Notoedric Mange in Cats. *Tamilnadu J. Veterinary and Animal Science*. 4(6): 240-241.
- [5] Sasmita R, Poedji H, Agus S, Muhammad Y. 2013. Buku Ajar Arthropoda. Alirangga University Press. Page: 77-84.
- [6] Scott D, Miller W, Griffin C, Muller, Kirk. 2001. Small Animal Dermatology. W.B. Sanders Co. Philadelphia, PA.
- [7] Walker A. 1994. The Arthropods of Human and Domestic Animals. Chapman and Hall, London. Pp: 7-8.