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Therapeutic management of *Otodectes cynotis* induced aural haematoma in a Persian cat

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Abstract

A 3 month old male Persian cat was presented to Palakkad Pet Hospital with a history of swollen left ear and itching. Clinical examination revealed the condition as aural haematoma by observations and aspirating the fluid from the haematoma. The fluid was sero-haemorrhagic and fibrotic-rich. Since cat was having skin lesions, decided to take skin scrapings from the lesions. On microscopically, *Otodectes cynotis* could be observed. All the aseptic measures for surgery has taken and under general anaesthesia with Ketamine hydrochloride and diazepam managed the condition by surgery to resolve the condition. The technique used for the surgery was by linear incision, opened the hematoma and removed the blood, fibrin clots and debris and closed with multiple staggered interrupted sutures and used sponge to maintain the shape of the ear. Selamectin spot on applied topically to treat the ear mite, *Otodectes cynotis* and to prevent the recurrence. The cat completely recovered without any recurrence.

Keywords: Aural haematoma, otitis, *Otodectes cynotis*, selamectin

1. Introduction

An aural or auricular haematoma is a blood accumulated subcutaneous fluctuant swelling on the pinna between the pinnae's dermal surface and the underlying perichondrium^[1]. Traumatic rupture of the capillaries with separation of auricular cartilage and skin leads to the condition as it creates a dead space between cartilage and skin that is filled with blood^[2]. The condition may occur in one ear or in both the ears. Aural haematomas are more common in dogs compared to cats^[2]. Generally in dogs and cats, pruritus or non-pruritic mechanical trauma can result in aural hematoma mainly by head shaking and ear scratching associated with otitis externa or atopy^[3]. Primary cause of otitis in dogs is hypersensitivity reactions particularly atopic and food allergies which is about 43% of all cases of otitis^[4]. In cats, 50-80% of otitis externa cases are associated with *Otodectes cynotis* mites^[5]. *Otodectes cynotis* is a psoroptid mite and is highly contagious, they infests the external acoustic meatus of wild and domestic cats, dogs and occasionally ruminants^[6]. According to some publications kittens are more susceptible to the *Otodectes cynotis* than the adult cats^[7]. The prevalence in kittens less than 3 months is 11.4% and in kittens aged 3 to 6 months is 17.6%^[8]. Usually, kittens are infested from the dam, other routes include contaminated bedding materials and grooming accessories^[9]. *Otodectes cynotis* infested cats may scratch the ears due to severe pruritus which results in aural haematomas^[10]. Aural haematomas can be therapeutically managed by adopting surgical or non surgical methods^[3]. The present case study describes the surgical treatment of aural hematoma caused by *Otodectes cynotis* infestation.

2. History and Clinical examination

A 3 month old male Persian cat weighing 1.6 Kg was presented to a private veterinary clinic, in Palakkad with a history of swelling on the left ear and itching. The cat was discomfort, scratching the left ear and shaking the head continuously and pruritus-associated hair loss from dorsal surface of the ear could be observed. On observation, hair loss was localized and not observed on any other body regions. Aural haematoma was identified on the concave surface of the left ear pinna (Fig 1) and it was warm to touch. The skin was erythematous and aspirated sero-haemorrhagic fibrotic-rich fluid from the haematoma. To identify the cause of aural haematoma, skin scrapings have taken from the lesions of the left ear and visualized the live ear mite, *Otodectes cynotis* under microscope (Fig 2).

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3. Treatment and Discussion

General anaesthesia was induced by administering Ketamine hydrochloride at 20mg/Kg body weight intramuscularly. The cat was anaesthetized after 15 minutes and transferred to the operation theatre. As an anaesthetic adjunct and muscle relaxant, given Diazepam at a dose rate of 0.25mg/Kg bodyweight intravenously. The concave surface of ear pinna was clipped and shaved. Disinfected the surgical site by Povidone Iodine and draped with surgical cloth. Normal saline was infused intravenously during the entire process of surgery and administered Tramadol at a dose rate of 2mg/Kg body weight to reduce the pain during the surgical procedure. A Linear incision is made through the concave surface of the ear pinna overlying the haematoma. Completely drained and evacuated the blood, fibrin clots and debris by massage and washing the cavity with sterile normal saline solution. The opened inner surface of the ear is closed with multiple staggered, interrupted sutures that are parallel to the long axis of ear that covers the entire area of haematoma. To maintain the shape of the ear a sponge is placed in the inner surface of the ear and the sutures are knotted through the sponge and stabilized to both surfaces of the ear with nylon as suture material (Fig 3). Advised the owner to apply a collar around the neck of the cat to prevent scratching of the operated site. To treat the ear mite infestation, Selamectin (6% w/v) spot on applied externally. As post-operative care, the cat was given a broad-spectrum antibiotic for 5 days. Dressing of the wound was done with antiseptic-antibacterial cream up to the healing of wound. The suture was removed after 10 days.

Aural hematoma is the accumulation of blood or fibrin debris in the ear pinna between the cartilage and skin [11]. Untreated cases results in granulation tissue formation, subsequent contraction and fibrosis of this tissue can result in pinnal deformity and, in cats, obstruction of the external acoustic opening [12]. Considering the etiology, pruritus or non pruritus trauma associated with otitis externa, atopy or ear mite infestation are the main conditions results in aural hematoma. In the present study *Otodectes cynotis*, an ear mite could be observed from the skin scrapings taken from the ear that results in severe pruritus associated signs such as scratching of ear, shaking of head and results in aural hematoma. Similar observations are also reported [10]. During the initial stages of the condition, medical management is more preferred to maintain the cosmetic aspects of the dogs and cats as it is less invasive [13]. Usually in this method the haematoma is drained with a needle and infusing steroids such as dexamethasone, methyl prednisolone, triamcinolone to the lesions with daily oral steroid treatment [14]. As an intra-lesion infusion, Platelet Rich Plasma (PRP) is also effective as per some reports [15]. The most common method to treat the recurrent or persistent haematoma in dog and cat is surgery mainly linear incision with sutures. Other methods includes, opening of the haematoma by incision and closing by pin sutures [16] and its combination with a squeezing sponge [17]. In the present case used the surgical technique with the sponge to resolve the clinical signs, to maintain the cosmetic aspects and also to prevent the recurrence. Apart from this, primary causes of otitis have to be controlled or treated to prevent the secondary causes of otitis and aural hematoma formation and recurrence. In the present case, the primary cause was *Otodectes cynotis* infestation so treated with Selamectin, a topical parasiticide to prevent the recurrence.



Fig 1: Aural haematoma in the concave surface of left ear pinna

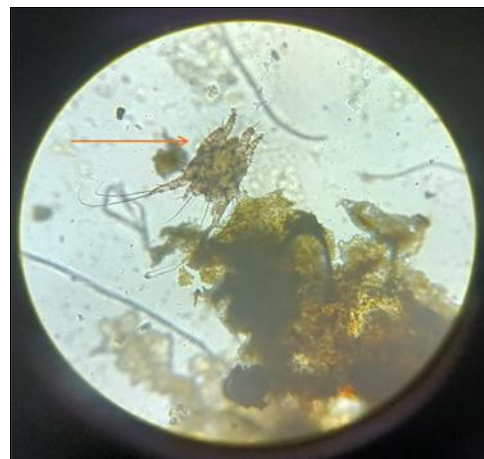


Fig 2: *Otodectes cynotis* under a microscope (10X)



Fig 3: Aural haematoma resolved after the surgery

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