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## Therapeutic efficacy of imidocarb on feline cytauxzoonosis: A case study

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### Abstract

Cytauxzoonosis is an emerging, life threatening vector born infectious disease of domestic and wild cats, caused by an apicomplexan haemoproteoza, *Cytauxzoon sp.* An eighteen months old male domestic cat having body weight approximately 2 kg was presented to TVCC, W.U.A.F.S., Kolkata-37, West Bengal on 19/03/2019 with a history of ectoparasitic infestation, inappetance from 4 days. Clinical examination revealed that there were 102.4° F of body temperature, tachycardia and increased respiratory rate. On closed observation there were pale mucous membrane, mild dehydration, depression and swelling of lymph nodes. On the basis of history and clinical signs the case was suspected for haemoprozoan infection and for that peripheral blood smear was sent for examination. On the basis of the report of blood smear examination the case was diagnosed as feline cytauxzoonosis. For medical intervention Imidocarb (BABIMIDO®, @3.5mg/kg B.W.) intramuscularly and Atropine Sulphate (Atropine®, 0.04mg/kg B.W.) subcutaneously were given. To combat the condition of anaemia the cat was treated with haematinic Syrup (Sharkoferrol, 1ml daily) orally. After two weeks of treatment the cat appeared normal in health and again blood smear was sent for examination. The blood smear examination report show negative for any haemoproteoza.

**Keywords:** therapeutic efficacy, imidocarb, feline cytauxzoonosis

### Introduction

Cytauxzoonosis is an emerging, life –threatening infectious disease of domestic and wild cats caused by a apicomplexan hemoproteoza, *Cytauxzoon felis* (Albert et. al., 2015) [6] within the family *Theileridae* and their closest relatives are *Theileria sp.* The agent is transmitted by *Amblyomma americanum* (the lone star tick), is the principal vector (Ridgway) that acquire the infection by feeding on parasite infected hosts. Experimentally, *Dermacentor variabilis* (the American dog tick) has also been shown to be a capable vector though the contribution of this tick in natural infection is unclear (Ridgway). Natural host for *C. felis* is the bobcat, which acts as a reservoir host of parasite and include bobcats and domestic cats that have recovered from infection. Feline cytauxzoonosis was first reported in 1976 in Missouri, with four fatal cases (Jin-Lei Wang et.al, 2017) [2]. The disease has been found to be endemic mainly in domestic cats in the southern and southeastern United States (Jin-Lei Wang et.al, 2017) [2]. The distribution of this disease has expanded in recent years (Jaime L. Tarigo, 2015) [3] and is also reported from various geographical location including India.

### History and observation

A eighteen months old male domestic cat having 2 kg body weight was presented at Belgachia Clinics, Kolkata (West Bengal). On physical examination the clinical signs were inappetance for 4 days, slight dehydration, pale mucous membrane, depression/lethargy and swelling of lymph node. On clinical examination the cat revealed 102.4°F body temperature, increased respiratory rate and tachycardia and there was a history of tick infestation.

### Diagnosis and treatment

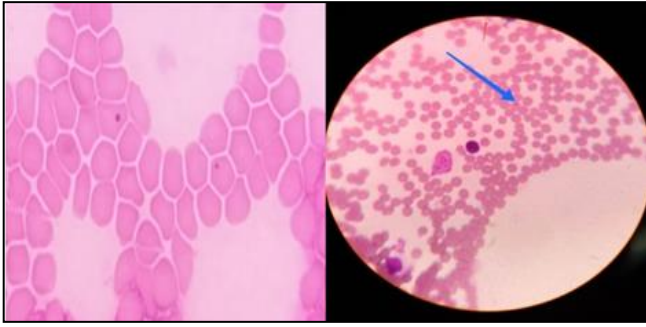
Finding a tick on the cat may help with the diagnosis, but in many cases, the cat may have got rid of the ticks before showing any symptom or illness. Blood tests are helpful in diagnosing this disease. In the present case based upon the clinical signs and symptoms, the cat was advised for thin blood smear examination and it was positive for haemoproteoza,

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*Cytauxzoon felis*. In microscopic identification there was presence of a ring or dot shaped piroplasm in the erythrocyte [Fig. 1].



**Fig 1:** showing the presence of *Cytauxzoon felis* in peripheral blood smear represented by blue arrow.

For medical intervention Imidocarb (BABIMIDO®, @3.5mg/kg B.W.) Intramuscularly and Atropine Sulphate (Atropine®, 0.04mg/kg B.W.) subcutaneously were given. To combat the condition of anaemia the cat was treated with haematinic Syrup (Sharkoferrol, 1ml daily) orally. Powder Notix talc was prescribed for topical application to control the ticks.

### Discussion

Cytauxzoonosis is a life threatening tick-transmitted protozoal disease affecting wild and domestic felids (Meinkoth *et. al.*, 2005) [4] caused by *Cytauxzoon felis* (Carli *et. al.*, 2014) [5]. To control the tick's topical product was advised. The antiprotozoal therapy of Imidocarb dipropionate was given by intramuscular injection, 1 week apart. It is generally well tolerated, although it can cause transient pain at the site of injection. Acute adverse effect results from anti- cholinergic activity and include vomiting, shivering, hyper salivation, lacrimation, diarrhoea, agitation, lethargy, pyrexia and periorbital swelling. Atropin sulphate was given to reduce the side effects of Imidocarb and it was administered by subcutaneous injection stat [Fig. 2]. As the organism destroy the blood cell, haematinic was prescribed for increasing the blood cell volume.



**Fig 2:** Administration of Atropine Sulphate

### Conclusion

Cytauxzoonosis is a severe acute febrile illness with a high mortality rate in domestic and wild cats. Presence of piroplasms in RBCs confirms infection and compatible history and clinical findings support a diagnosis of acute disease. As it is a haemoprozoan disease, treatment of

cytauxzoonosis includes administration of antiprotozoal drugs and supportive care.

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