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## Therapeutic management of complicated Demodicosis: A case report

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**Abstract**

Demodicosis is a very common parasitic skin ailment of canine population. It is caused by infestation of *Demodex canis* mites which mainly resides beneath the hair follicles and sebaceous glands of skin. A juvenile bull mastiff she-dog; 8 months old was presented to the T.V.C.C, Jabalpur with a history of pruritis and clinical signs such as alopecia, generalized edema, redness and bleeding pustules mainly on the face, skin of inter-mandibular region, forelimbs, hindlimbs and on the dorsum of trunk. The lesions were complicated by bacterial infection leading to pus formation. Haematological and biochemical parameters revealed nearly normal haemogram and biochemistry except an elevation in serum BUN, Creatinine and Total protein. Deep skin scraping examination revealed presence of *Demodex canis*. Treatment includes ivermectin @ 300 µg/kg body weight, external application of amitraz (12.5%), antibiotic cefpodoxime 5 mg/kg B.W, fatty acid supplements, topical antimicrobial lotion leading to spontaneous recovery and scrapings were negative for mite after one month.

**Keywords:** Canine, complicated demodicosis, ivermectin

**Introduction**

Demodicosis is a fairly common skin affection of canines and dealing with such cases has indeed become challenging owing to the long-standing complications that may accompany the disease. It is a host specific disease which is caused by *Demodex canis* in canines, characterized by excessive proliferation of mite, *Demodex canis* within the hair follicles and sebaceous glands of the animal [1]. Usually two types of manifestations are there which include squamous and pustular forms. Squamous form causes dry alopecia and thickening of the skin and pustular form which is the more severe form, causing secondary bacterial infection resulting in the characteristic red, numerous pustules and wrinkling of the skin [2, 3].

**History and clinical findings**

A juvenile bull mastiff she-dog; 8 months old was presented to the T.V.C.C, Jabalpur with a complaint of alopecia, pruritis and pustules over the neck (Fig 1, 2 and 3). On clinical examination there was periocular alopecia and generalized alopecia, pustules on skin of inter-mandibular region, fore limbs, hind limbs and on the dorsum of trunk with hyperkeratosis of skin. The lesions were complicated by bacterial infection leading to pus formation. Heart rate, respiration rate, pulse rate and rectal temperature were normal. Haematological and biochemical parameters revealed nearly normal haemogram and biochemistry except an elevation in serum BUN, Creatinine and Total protein level Table 1. For the confirmation, deep skin scraping examination was done. Sample was collected from periphery of the lesions with the help of scalpel in 10% KOH solution. This skin scraping examination under microscope revealed the presence of *Demodex canis* organisms (Fig 4).



**Fig 1, 2, 3:** Dog with lesions at face, neck and feet



Fig 4: Scrapping containing *Demodex canis*.

Table 1: Heamatological and biochemical parameters

S.No	Parameters	Before treatment	After treatment
1.	Haemoglobin	11g%	11.6 g%
2.	TLC	25,000 / $\mu$ l	13,000 / $\mu$ l
3.	Neutrophils	65%	66%
4.	Lymphocytes	13%	22%
5.	Alanine aminotransferase (ALT)	53 IU/L	54 IU/L
6.	Aspartate aminotransferase (AST)	70.72 IU/L	48 IU/L
7.	BUN	49.96 mg/dl	25 mg/dl
8.	Creatinine	2.38 mg/dl	1.15 mg/dl
9.	Total protein	9.39 g/dl	6.2g/dl

**Treatment**

After confirmation by laboratory investigation of *Demodex canis*. Treatment was started with injection Ivermectin @ 300  $\mu$ g/kg body weight, subcutaneously at weekly intervals for four weeks along with supportive treatment of injection Pheniramine maleate (dose: 0.5 mg/kg B.W I/M) and topical antimicrobial lotion (Wokazole) regularly for one weeks and

solution Amitraz (12.5 %) applied topically once a week four weeks. Tablet Cefpodoxime proxetil @ 5 mg mg/kg B.W, PO, once in a day for 7 days was prescribed for the secondary pyoderma infection. Spontaneous fatty acid supplements @ 5ml PO once in a day for 15 days. Renal tonic (Renecare) @ 5ml PO was given along with basic therapy for kidney affections.



Fig 5: Post treatment

**Discussion**

After treatment there was marked improvement in the skin lesions and animal became physiologically active and alert. Heamatological and biochemical parameters were normal after treatment. No mites could be detected microscopically in skin scrapings after one month post treatment.

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