Demodicosis is common skin problem of dogs caused by *Demodex* spp. mites. Disease can be classified as juvenile onset and adult onset depending upon the age of the dog. Juvenile onset disease can occur in dogs with less than 1 year of age due to immune dysfunction whereas adult onset can occur in dogs 4 years and above due to many underlying causes like diabetes mellitus, hyperadrenocorticism, neoplasia, hypothyroidism, heartworm disease, internal parasitism and leishmaniasis (Muller, 2004).

Depending upon the signs, disease can be classified into two forms i.e. localized or generalized. Localized form usually involves face and forelegs whereas in generalized form whole region/both legs or whole body gets involved (Scott *et al.*, 2001). Major clinical signs are circular patches of alopecia, hyperpigmentation and lichenification. Pruritus is typically absent unless complicated with concurrent allergy or secondary bacterial infection.

Demodicosis is diagnosed by performing deep skin scrapings from multiple affected sites. Presence of typical eight legs cigar shaped adult mites seen under the microscope is confirmatory diagnosis of disease. Treatment involves miticidal therapy (amitraz dip and parenteral ivermectin) and antibiotics for controlling secondary bacterial infection (Tatter & Patterson, 2008). Prognosis is good for juvenile onset generalized Demodicosis with cure rate of 70-80% whereas adult onset demodicosis has poor prognosis if underlying cause is not diagnosed or taken care.

**Case history and Observations**

A young one year old pug dog was presented to Small Animal Section, Veterinary Clinical Complex, LUVAS from Jhunjhunu, Rajasthan with a history of marked alopecia, hyperpigmentation, lichenification and secondary bacterial lesion (Fig. 1a & 1b). Deep skin scrapings from multiple sites were collected and sent to laboratory for examination. Blood collected in EDTA vial was subjected to haematological examination. Typical cigar shaped eight legged adult mite (Fig. 2) was evident on skin scraping which confirmed the case to be of demodicosis. Haematological examination revealed leucocytosis with absolute neutrophilia. Dog was successfully treated with amitraz dip (3ml/L) weekly along with ivermectin (600 µg/kg body weight subcutaneously) for a period of one and a half month. Secondary bacterial lesions were controlled by cephalexin orally (@ 22mg/kg body weight orally twice a day, for 21 days and weekly bath benzoyl peroxide shampoo to remove crust, debris, and bacteria. Dog recovered completely from the disease and owner were advised not to breed dog in future as juvenile onset demodicosis is mainly seen due to immune dysfunction, which can be transmitted to future generation.

**Keywords:** Juvenile Demodicosis, Ivermectin, Amitraj

**Abstract**

The present case report highlights the successful management of juvenile onset generalized demodicosis complicated by secondary bacterial lesion. A young one year old pug presented with history of marked alopecia, hyperpigmentation, lichenification and secondary bacterial lesion. Skin scraping and haematological examination was performed. Skin scraping examination confirmed the presence of typical cigar shaped *Demodex* mite. Haematological examination of blood revealed leucocytosis with absolute neutrophilia. Dog was successfully treated with amitraz dip (3ml/L) weekly along with ivermectin (600 µg/kg body weight subcutaneously) for a period of one and a half month. Secondary bacterial lesions were controlled by cephalexin orally (@ 22mg/kg body weight orally twice a day, for 21 days and weekly bath benzoyl peroxide shampoo to remove crust, debris, and bacteria. Dog recovered completely from the disease and owner were advised not to breed dog in future as juvenile onset demodicosis is mainly seen due to immune dysfunction, which can be transmitted to future generation.

**Diagnosis and therapeutic management of juvenile onset generalized demodicosis in a pug**

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**Abstract**

The present case report highlights the successful management of juvenile onset generalized demodicosis complicated with secondary bacterial lesion. A young one year old pug presented with history of marked alopecia, hyperpigmentation, lichenification and secondary bacterial lesion. Skin scraping and haematological examination was performed. Skin scraping examination confirmed the presence of typical cigar shaped *Demodex* mite. Haematological examination of blood revealed leucocytosis with absolute neutrophilia. Dog was successfully treated with amitraz dip (3ml/L) weekly along with ivermectin (600 µg/kg body weight subcutaneously) for a period of one and a half month. Secondary bacterial lesions were controlled by cephalexin orally (@ 22mg/kg body weight orally twice a day, for 21 days and weekly bath benzoyl peroxide shampoo to remove crust, debris, and bacteria. Dog recovered completely from the disease and owner were advised not to breed dog in future as juvenile onset demodicosis is mainly seen due to immune dysfunction, which can be transmitted to future generation.

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**Case history and Observations**

A young one year old pug dog was presented to Small Animal Section, Veterinary Clinical Complex, LUVAS from Jhunjhunu, Rajasthan with a history of generalized alopecia, hyperpigmentation, lichenification and secondary bacterial lesion (Fig. 1a & 1b). Deep skin scrapings from multiple sites were collected and sent to laboratory for examination. Blood collected in EDTA vial was subjected to haematological examination. Typical cigar shaped eight legged adult mite (Fig. 2) was evident on skin scraping which confirmed the case to be of demodicosis. Haematology revealed increase in leucocyte count (22.4 × 10³/cumm) with absolute neutrophilia (90%). On the basis of history, clinical findings and laboratory confirmation, disease was diagnosed to be of juvenile onset generalized demodicosis complicated by secondary bacterial infection. Leucocytosis with absolute neutrophilia in the present study is similar to results of studies conducted by Reddy *et al.*, (2015) and Sharma *et al.*, (2018).

Definite therapy was started with injection ivermectin @ 600µg/kg body weight subcutaneously...
once a fortnight and application of amitraj dip once a week for six weeks. For controlling secondary bacterial infection, cephallexin @ 22mg/kg body weight orally twice a day and weekly bath with shampoo containing benzoyl peroxide as adjunctive therapy was advised for 21 days. Along with the above treatment, fatty acid supplementation orally was recommended. Case was followed and after one month marked improvement is seen with emergence of hair follicles and subsidence of secondary bacterial lesion (Fig 3a & 3b.). Therapy with amitraj dip, ivermectin and fatty acid supplementation was continued for next one month. After three months of treatment and follow up, dog showed complete recovery with absolute remittance of clinical signs and fresh growth of hair follicles (Fig.4a & 4b.). Similar to the present study, Sharma et al., (2018) treated dogs with ivermectin, amitraz, antibiotic, benzyl peroxide shampoo, along with supportive therapy in a month.

**Conclusion**

In present case report, Juvenile generalized demodicosis in dogs was diagnosed and treated completely with three months of treatment. As the disease occurs due to immune dysfunction which is heritable therefore owner was advised not to use dog for breeding purposes.

**References**


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