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Short Communication

MICROFILARIASIS IN A CAMEL (*Camelus dromedarius*)–A CASE REPORT

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Dipetalonema evansi is an important filarial nematode specially affecting camels and lives in the heart, in hepatic, pulmonary and spermatic arteries, lymph nodes and lymph vessels (Dakkak and Ouhelli, 1987) and is transmitted by mosquitoes. This parasite has a worldwide distribution (Wernery and Kaaden, 2002) including India (Pathak and Chhabra, 2010). Species of Microfilaria vary from region to region (Butt *et al,* 1996), however, Ahmad (1996) has reported Dipetalonemiasis from Pakistan. Prevalence reported in different countries ranges from 4% in adult camels to 47.5% in camels less than one year old (Muhammad and Athar, 2000). Recently 15.28% prevalence of *Dipetalonema evansi* was recorded in camels with more prevalence in male (Alireza *et al,* 2013). Pathak *et al* (1998) reported 14.89% prevalence of microfilariae in both the sexes of camel in India, with highest prevalence in camels of 6-9 years age group. Other ruminant filarial worm which occurs in camels includes species of Onchocerca, Fasciata, Gutturosa and Armillata. Manifestations of dipetalonemiasis include weakness, loss of appetite, pale mucous membrane, orchitis, aneurysms in the spermatic cord, arteriosclerosis and heart failure (Chhabra and Gupta, 2006). Microfilariae feed on blood in peripheral blood leading to marked decrease in haemoglobin, severity of which depends on the worm load (Muhammad *et al,* 2004).

Clinical findings and laboratory investigation:

A 7 years old female camel was presented to Teaching Veterinary Clinics Complex (TVCC), College of Veterinary and Animal Sciences, Bikaner with symptoms of emaciation and dyspnoea. The camel was not from herd, reared as a single camel with some large ruminants and sheep. History revealed inappetence, debility and progressive oedematous swelling of the abdominal region. Clinical examination recorded pale mucous membranes, swollen pharyngeal lymph node, tachycardia (heart rate 54/min) and tachypnoea (22/min). Microscopic examination of blood film revealed presence of larvae of *Microfilaria* identified as per method described by Whitlock (1960). The slight rise in the body temperature may be due to the stress caused by the migration of microfilaria in the body of the host. Increase in heart rate and respiration rate is to compensate anaemic conditions and fulfill body oxygen requirement.

Table 1. Haematology of microfilariasis affected camel.

Parameters	Results
Haemoglobin (gm%)	7.5
PCV (%)	24.0
RBCs (X 10^6/µl)	3.4
WBCs (X 10^3/µl)	17
Platelets (X 10^3/µl)	180
Neutrophils (%)	76
Lymphocytes (%)	16
Monocytes (%)	5
Eosinophils (%)	11
Basophils (%)	2

Results and Discussion

Treatment was done with two successive doses of Ivermectin (Neomec: Intas Pharmaceuticals Ltd.) 200 µg/ kg body weight through subcutaneous route at 10 days interval. Supportive therapy was done with haematinics by using inj. of imferon 10 ml I/M, twice weekly, inj. of Vitamin B_1, B_6, B_{12} complex (Tribivet: Intas Pharmaceuticals Ltd.) 10 ml daily for 5 days. Appreciable improvement in clinical signs was seen after first injection and complete recovery was recorded after second injection. Blood smear examination was repeated after 10 days of second dosing of Ivermectin, which did not reveal any parasite. Camel was discharged at this point and

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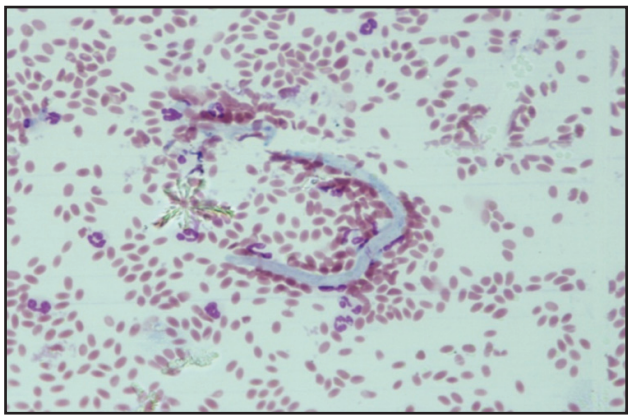

Fig 1. Microfilariasis in camel during blood smear examination.

infection of Iron (Imferon: Shreya Life Sciences Pvt. Ltd.) was administered fortnightly. Similar treatment was given by Muhammad *et al* (2004). Ivermectin causes little discernible harm to adult parasites but seems to be effective against the developing larvae and blocks aggression of microfilaria (Awadzi *et al*, 1985). The agent has microfilaricidal activity in brugran filariasis that may prove clinically useful (Diallo *et al*, 1987). Although more prevalence rate was reported in camel aged below 5 years (Rahbari and Bazargani, 1995), but in present case the age of camel was 7 year, which is parallel with recent findings of Borji *et al* (2009) and Fard *et al* (2011), who reported increased infection rate with age. Present case report belongs to female sex, in which low prevalence was recorded (Alireza *et al*, 2013) but infection can occur in both sexes (Pathak *et al*, 1998). As the parasitic diseases are the major cause of production losses in animals along with adverse impact on health (Shafqaat *et al*, 2004), so early diagnosis and treatment in recommended.

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