The Importance Of Dirofilariasis In India

T Dam, P Das

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Abstract

Dirofilariasis is an emerging zoonosis in India. Dirofilaria infect many different animals beside dogs and cause infection in humans. Filariasis, caused by filarial nematode (Dirofilaria) are reported world wide and appear to be increasing (Dayal and Neafie 1975). Six out of 40 species of Dirofilaria cause infection in human (Sekar et al 2000; Padmaja et al, 2005). The species infecting human varies with geographical boundaries (Orihel and Eberhard, 1998). Dirofilaria repens causes human dirofilariasis in regions of Europe, Africa, Middle Eastern and Asian countries (Dissanaike et al 1997). Dirofilaria tenuis infection is reported from Southeastern United States. Although most parasitologists believe that Dirofilaria tenuis is restricted in USA, however, Dirofilaria tenuis infection is reported from India (Pacheco and Schofield 1965; Bhatt 2003). Dirofilaria immitis is a common parasite of canine cardiovascular system and recognized as potential human pathogen (Dayal and Neafie 1975; Badhe and Sane, 1989). Dirofilaria immitis causes pulmonary lesions in humans and rarely involved in subcutaneous tissues (Badhe and Sane, 1989).

CASE REPORTS

The first two cases of human ocular dirofilarial infection in India were reported from same part of India (Kerala) in 1976 and 1978 respectively (Joseph et al 1976 ; George and Kurian 1978). Several other incidences of ocular dirofilariasis were subsequently reported from India (Sekhar et al 2000; Mallick and Ittyerah 2003). Dirofilaria repens and Dirofilaria tenuis cause sub conjunctival dirofilariasis. Subconjunctival dirofilariasis due to Dirofilaria repens were reported in several reports from various parts of India (Nadgir et al 2001; Gautam et al 2002). In 1989, the first case of subcutaneous infection with Dirofilaria showed a child manifesting portal cavernoma with pulmonary dirofilariasis from India (Badhe and Sane 1989). In another report, subcutaneous dirofilariasis due to D repens is reported in a 35 year old male recently (Padmaja et al , 2005). In a recent study, Sabu et al identified twelve worms from different human patients as Dirofilaria repens based on morphology from southern part of India (Sabu et al 2005). In order to predict the natural history of dirofilarial infection in this region, 160 blood smears of dogs were also examined from this region. Microfilariae (D. repens) were detected in 11 samples (7%). This suggests that humans are at an enhanced risk of acquiring dirofilaria infection from dogs.

CONCLUSION

Human infection with Dirofilaria repens is not widely recognized in India, however, several cases are reported in last few years. Dirofilaria repens is a common zoonotic infection in neighboring country Sri Lanka (Dissanaike et al 1997). Humans are dead end for the parasite, however, increasing the number of infection in India as well as through out the world suggest more attention regarding this infection.

CORRESPONDENCE TO

T Dam Room no 204, Mudd Hall Department of Biology, Johns Hopkins University 3400 (N) Charles Street. Baltimore, MD 21218. USA Email: tdam1@jhmi.edu

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Author Information

T. Dam
Department of Biology, Johns Hopkins University

Paramita Das
Department of Zoology, Visva Bharati University