Short Communication

ANGIOSTRONGYLUS CANTONENSIS (NEMATODA, METASTRONGYLIDAE) IN BANDICOOT RATS IN KERALA, SOUTH INDIA

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ABSTRACT

Angiostrongylus cantonensis, the causative agent of eosinophilic meningoencephalitis was reported from bandicoot rats in Kerala. The presence of A. cantonensis in bandicoot rats in Kerala is quite appalling as it is considered as an emerging pathogen. Since human rat contacts are ineluctable, chances of transmission are very high. Regular surveillance and awareness programmes are recommended.

Keywords: Angiostrongylus cantonensis, Kerala, Bandicoot rats, Emerging pathogen.

Angiostrongylus cantonensis, a zoonotic rodent nematode, discovered from pulmonary arteries and hearts of domestic rats captured from Guangzhou (Canton), China, by Chen in 1935 (Chen, 1935). A cantonensis occasionally causes human Angiostrongyliasis with meningeal inflammation and eosinophilic pleocytosis in the cerebrospinal fluid and is clinically termed as eosinophilic meningoencephalitis. Humans become infected by ingesting intermediate hosts, such as snails and slugs, or transport/paratenic hosts, such as freshwater crustaceans, that contain viable third-stage larvae which migrate to the central nervous system after ingestion and cause eosinophilic meningoencephalitis (Hughes et al., 2003; Hochberg et al., 2007). The natural definitive hosts are rats, especially species of Rattus rattus, Rattus exulans, Rattus norvegicus, Bandicota indica and Bandicota bengalensis (Namue and Wongsawad, 1997 and Pipitgool et al., 1997).

Farmers are regularly trapping rats to prevent crop damage and such trapped rats in December 2013 were used for the study. The examination of bandicoot rats (Bandicota indica) from agricultural areas of Kottayam district, Kerala, India, detected worms in cardiopulmonary system which had characteristic features of Angiostrongylus, including size, prominent dark intestine and typical body shape with barber’s pole appearance. This is the first report of A. cantonensis among bandicoot rats in Kerala.

The presence of A. cantonensis among wild rats is observed by many researchers worldwide such as, from Indonesia (Stafford et al., 1976); Papua New Guinea (Scrimgeour, 1984); Taiwan (Chunhung, and Kauhung, 2000); Jamaica (Lindo et al., 2002) and West Indies (Chikwetona et al., 2009). A. cantonensis, is endemic in south Asia, Pacific islands, Australia, and Caribbean islands. Human infections due to A. cantonensis are reported from various parts of India too (Wang et al., 2008). Panackel et al. (2006) and Parameswaran (2006) established 13 cases of human angiostrongyliasis from Kottayam, Kerala after eating monitor lizard.

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The presence of *A. cantonensis* in bandicoot rats in Kerala is alarming as it is considered as an emerging pathogen with severe pathognomonic features. As human rat contacts are unavoidable, chances of transmission and host cyclicity are extremely important. Regular surveillance programmes are needed to find out the existing status of this neglected zoonosis - eosinophilic meningo-encephalitis due to *A. cantonensis*.

REFERENCES


