

Cercarial dermatitis in India

Sir – Human schistosomiasis has not been well documented in India, with a few exceptions (1, 2). Similarly, the public health importance of cercarial dermatitis is under-recognized. Our findings indicate that the condition is widespread and more serious than previously considered.

During our work on schistosomiasis in and around Jabalpur, Madhya Pradesh, over the past 30 years, snails have been collected from perennial ponds (originally numbering 52 ponds, but reduced to 5 by urbanization) and low-lying areas, ditches, farmland and roadsides where water and snails collect in the rainy season. Jabalpur has an annual rainfall of 140–160 cm, with a maximum daytime temperature of 42.5 °C; the lower income group of its one million population depends on the ponds and temporary water sources for domestic water supplies, cultivation of water chestnuts, fishing and recreation.

The ponds are inhabited by freshwater snails (*Vivipara* spp., *Indoplanorbis exustus*, *Lymnaea luteola*, *Helicorbis* spp., and *Gyrulus* spp.). *L. luteola* was found positive for cercariae of *Schistosoma incognitum* and *Orientalbilharzia dattai*, and *I. exustus* for those of *S. spindale*, *S. indicum* and *S. nasale* (3). In a recent survey, 2717 *L. luteola* and 1000 *I. exustus* snails were collected; of the *L. luteola*, 0.62%, 2.83% and 0.92% were positive for avian and mammalian schistosome cercariae and other trematode cercariae, respectively, while the corresponding proportions for *I. exustus* were 0.9%, 0.9% and 4.2%.

We made an extensive survey of people who were using the five ponds concerned (Devtal, Gangasagar, Marhai, Medical, and Soopatal). All of them complained about itching and rashes after being in contact with pond water, which they attributed to the mud or *Trapa* leaves. Intensity of symptoms increased during the rainy season (July–August), longer contact with water, or activities near aquatic vegetation. We found a higher snail concentration near aquatic vegetation, with possible higher cercarial concentration at these sites. The snail population and its positivity increased during the rainy season, which is also the time for planting water chestnuts, hence the people's longer contact with the water and more severe reactions. At the end of the rainy

season (September–October), when the fruit is picked without wading in the water, people complained of eruptions and itching on their forearms.

When 60 people aged 8–50 years were questioned, it was found that those aged >40 years developed eruptions (mainly in the knee region) within 5–10 minutes of water contact, which persisted for 3–7 days and left black scars. Children developed rashes all over the body, because of bathing, but the eruptions were smaller and of shorter duration.

Planting water chestnut roots involves standing all day in the water during the rainy season, when the symptoms are the most severe, so planters applied benzyl benzoate or mustard oil before entering the ponds. In mild cases of dermatitis, mustard oil with common salt relieved the itching and rashes to some extent, but severe cases necessitated a visit to a physician for treatment with antihistamines and skin ointments, and a course of antibiotics in very severe cases.

I. exustus and, to a lesser extent, *L. luteola* have also been found in the rice fields, from where both avian and mammalian schistosome cercariae have been recovered. Enquiry among the paddy labourers revealed that they all suffered from itching and eruptions, but that they attributed these problems to contact with leaves.

Our present findings and those of previous researchers (4–6) suggest that cercarial dermatitis is a common problem of higher magnitude than hitherto considered, and might be found as well in rural areas of other south-east Asian countries where people enter ponds for various reasons. Though cercarial dermatitis is common in Jabalpur, health practitioners appear unconcerned and the connection is not made between the “unhygienic practice” of wading in ponds and the concentration of snails or cercariae in the water, perhaps because there is no common laboratory test to confirm the etiology of cercarial dermatitis and the people most affected are from the lowest social strata.

There is a need to develop an immunodiagnostic test for cercarial dermatitis and for efforts to control the condition. It is also worth investigating how frequent exposure to a variety of cercarial antigens affects the immune system and may exacerbate allergic and asthmatic conditions. ■

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