

Leech therapy and infection control: No clear window

Sir,

The ingenious article by Rastogi and Chaudhari was indeed interesting.^[1] *Hirudo medicinalis* (medical leech) has been used in ancient medicine for various ailments. In recent years, leeches have been making a remarkable re-emergence in medical practice, especially in reconstructive microsurgery to relieve venous congestion and to improve the microvascularization of flaps, grafts, or replants. The complications of hirudotherapy, though considered rare, are blood loss necessitating blood transfusions and local bacterial infection mainly due to *Aeromonas hydrophila*.^[2] Here, we would like to focus on some aspects related to leech therapy, such as infection control, protocol, and education.

It is not practical to obtain *Aeromonas*-free leeches, as these ectoparasites rely on the leeches for digestion of their blood meals. In fact, both species live symbiotically. Various infection control strategies have been proposed to prevent nosocomial infections through leeches. Investigators attempted to disinfect the guts of leeches before they are applied on patients by placing them in 0.02% chlorhexidine for 15 s or in antibiotic (tetracycline or cefoperazone) solutions for 12 h. Hokelek *et al.*^[3] also favored the incubation of leeches with appropriate antibiotics before their application. Aydin and colleagues^[4] had tried external decontamination of wild leeches with hypochloric acid without causing negative effects on the leech sucking function and life. However, all these attempts have not helped for containment of infection as they do not destroy the internal bacterial flora of the leech. Use of povidone-iodine for this purpose could not be considered, as it is toxic to leeches.

Regrettably, infections in the bloodstream due to leeches are not a new phenomenon. When detachment is tried, either by chemicals or by pulling it by surgical forceps, the leech tends to regurgitate its stomach contents into the wound. Narendranathan^[5] reported the possibility of leeches transmitting hepatitis B virus (HBV) infection

after the leech therapy, as free-living leeches are potential vectors for HBV.^[6] Just cleaning the leeches in milk before being reapplied to another person does not destroy the HBV. Application of turmeric (curcumin) to the leech after expulsion of blood by the worm has not resolved the issues related to infection control. Hence, identification and prevention of transmissible infectious agents through leeches or infection control procedures for hirudotherapy are potential areas for research.

Let us consider one leech for one person so as to prevent the spread of infections between patients. There is an urgent need to regulate the commercial marketing of leeches, as wild leeches are still available in local markets. Students of health sciences have to be informed on the inter-personal transmission of blood-borne infections through leeches, or infectious complications following application of leech or leech bite, and trained to elicit appropriate clinical history. They should be taught on the importance of obtaining written informed consent before instituting hirudotherapy and conducting clinical audit of cases subjected to such procedures to avoid legal litigations.

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REFERENCES

1. Rastogi S, Chaudhari P. Pigment reduction in nevus of Ota following leech therapy. *J Ayurveda Integr Med* 2014;5:125-8.
2. Adams SL. The emergency management of a medicinal leech bites. *Ann Emerg Med* 1989;18:316-9.
3. Hokelek M, Güneren E, Eroglu C. An experimental study to sterilize medicinal leeches. *Eur J Plast Surg* 2002;25:81-5.
4. Aydin A, Nazik H, Kuvat SV, Gurler N, Ongen B, Tuncer S, *et al.* External decontamination of wild leeches with hypochloric acid. *BMC Infect Dis* 2004;4:28.
5. Narendranathan M. Leeches and hepatitis B. *Lancet* 1992;339:1362.
6. Nehili M, Ilk C, Mehlhorn H, Ruhnau K, Dick W, Njayou M. Experiments on the possible role of leeches as vectors of animal and human pathogens: A light and electron microscopy study. *Parasitol Res* 1994;80:277-90.

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