General

The phylum Annelida is subdivided into three classes: Polychaeta (“bristle worms”, principally marine animals), Oligochaeta (e.g. earthworms) and Hirudinida (“leeches”). Among the latter there is a subclass of Hirudinea (the true leeches) with 12 families. They include terrestrial, freshwater and saltwater species. There are approximately 650 species, but not all of these constitute a problem for humans. Terrestrial (semiterrestrial is a better term) and amphibious species are common in Southeast Asia, the islands in the Pacific Ocean, India and South America. Aquatic species occur worldwide. They are seldom found in low-calcium water. They are good swimmers. Usually victims are people visiting marshy areas or walking in or near slow-moving small brooks or streams.

Leeches bites

On biting leeches introduce vasodilators and hirudin, a very powerful anticoagulant into the skin. The bite causes prolonged painless local bleeding. Once sated after sucking two to five times their own weight of blood they let go and drop to the ground. They feed infrequently. After a large blood meal, the animal can go for over 6 months without feeding. The blood is then digested in the gut over a 100-day period, during which water is extracted and excreted through several pairs of ventrally located nephridia.

Clinical aspects

Leeches can attach to the skin. With the anticoagulant, they also inject a local anaesthetic, so pain is absent. Prolonged wound bleeding can result. Removal of a leech can be facilitated by applying a little alcohol or vinegar. If necessary a burning cigarette may be held near the parasite. No attempt should be made to remove the animals rapidly because the jaws can remain behind. After wound cleaning, local pressure should be applied to stem the bleeding. The bleeding tendency can persist for many hours, sometimes even up to 2 days. This illustrates the power of the animal’s anticoagulants. Aquatic species can attach to the conjunctiva, nose, nasopharynx, vagina and urethra. When they attach themselves to the epiglottis, trachea or bronchi, serious complications are likely. Internal bleeding, haemoptysis, chronic headache, dysphagia and hoarseness occur. The leeches can be loosened by local application of cocaine or lidocaine. They are removed carefully with a forceps, using a laryngoscope or endoscope. As a rule the leech itself does not transmit any

pathogens, although some recent observations from Laos suggest that it might transmit *O. tsutsugamushi*. Wounds can become secondarily infected. *Aeromonas* infections can occur but is rare. Following repeated bites, hypersensitivity can occur. For prevention, protective clothing should be worn. A topical repellent such as dimethyl phthalate or dibutyl phthalate, may be applied.