

Abstract:

The origin of hirudotherapy is dated to ancient times, when the use of leeches replaced other methods of blood-letting. In the 19th century there was a significant increase in the use of leeches, mostly in France and in Russia. Unlike therapy in the past, nowadays, therapy is being performed under strict hygienic conditions and there are clearly defined contraindications that select which patients are not allowed to participate in treatment. The risks of hirudotherapy include – infection with the bacteria *Aeromonas spp.*, allergic reactions, and longlasting bleeding. However, hirudotherapy has had successful results in the treatment of chronic and life-threatening abnormalities, including cardiovascular problems, cancer and metastasis. Treatment with leeches is most commonly used in plastic surgery, microsurgery and veterinary practice. Leeches of the genus *Hirudo*, which are hematophagous vertebrate ectoparasites, are used for therapy. The saliva of leeches contains more than 200 peptides and proteins, the most important for our use are those with antithrombotic, anticoagulant and antibacterial effects. The components contained in the saliva prevent the development of complications during active sucking on the host.

Key words: Hirudotherapy, leeches, *Hirudo medicinalis*, saliva, bacteria *Aeromonas spp.*, blood