Global Veterinaria 13 (1): 55-59, 2014
ISSN 1992-6197

DOI: 10.5829/idosi.gv.2014.13.01.84142

Case Report: *Limnatisnilotica* infestation in a Kid From Iran

[1]Mahmoud Bahmani, [2]Hassan Hassanzadazar,[3]Seyed Ahmad Karamati,
[4]Fereidoun Ghotbian, [5]Farzaneh Bahmani, [6]Fariba Bahmani and [7]Ayoub Darabi

[1]Urmia University of Medical Sciences, Urmia, Iran
[2]Deputy for Food and Drug, Urmia University of Medical Sciences, Urmia, Iran
[3]Department of Medical Parasitology and Mycology,
Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
[4]Private Clinic of Dehloran City, Ilam Province, Iran
[5]Department of Entomology, Ahvaz Jondishapour University of Medical Sciences, Ahvaz, Iran
[6]Ilam University of Medical Sciences, Ilam, Iran
[7]Veterinary Networking of Dehloran City, General Department of Veterinary, Ilam Province, Iran

Abstract: Leech due to its invasive nature sticking to the mucosa of humans and animals and attempted to blood feeding. A six-month male Kid with respiratory distress and mouth bleeding symptoms after drinking contaminated water was examined by a veterinarian in Dehloran city of Ilam province of Iran in April 2014. Kid owner stated that the animal is infested by leeches orally. After examining the animal's mouth, a leech with 1.8 cm length was seen in kid's lower gum and changes were observed in animal physiology. Tachycardia, tachypnea, mucosal pale of Gum and eyelids, eye tears and fear was seen. After attempting to remove leech from the oral cavity, according to visual characteristics Limnatis nilotica was diagnosed. Anemia is the most common complication of leech infestation that it is causing economic losses of to farmers. Despite, health promotion, leeches infestation occur in different animals. Therefore, education and awareness increasing of traditional herders about contaminated water and natural springs are necessary and preventive measures should be taken.

Key words: Kid · Leech infestation · Iran

INTRODUCTION

There are a number of parasitic infections that affect lives of millions of people in the tropical countries such as Africa, Asia and Latin America. These infections are causes major public health disorders and problems leading to morbidity and sometimes mortality of the casualty [1]. Parasitic infection are causing diarrhea, Iron deficiency anemia, children growth retardation, weight loss, decreased concentration, abdominal pain, digestive problems, reduced performance, anger and aggression [2-5]. High prevalence of parasitic diseases is closely linked to environmental conditions and inadequate health systems[6-8].Parasitic diseases are considered as major health problems and barriers to the development of the social economy in most countries, especially developing countries.Parasitic disease with its wide-spread imposes a significant burden to human society because ofpoverty, malnutrition, illiteracy, overpopulation, lack of health facilities [9].

Leeches are parasites with different species witch divided in two group'sFreshwater leeches and Landleeches.

Land Leechesincludes *Haemadipsa zeylanica*, *Haemadis papicta* and *Haemadipsa sylvestris* and aquatic Leeches contain *Theromyzon tessulatum*, *Dinobdella ferox*, *Myzobdella africana*, *Limnatis paluda* and *Limnatis nilotica* [10-12].

The most important aquatic leeches that can infect human and animals is *Limnatisnilotica* with dark green color, orange line at the anterior and posterior sides of the body about 1 cmlength [13-16].

Corresponding Author: Dr. Mahmoud Bahmani, Urmia University of Medical Sciences, Urmia, Iran


Fig. 1: A Limnatisnilotica in a Kid

Case Report: A six-month male Kid with respiratory distress and mouth bleeding symptoms after drinking contaminated water was examined by a veterinarian in Dehloran city of Ilam province of Iran in April 2014.

Kid owner stated that the animal is infested by leeches orally. After examining the animal's mouth, a leechwith 1.8 cm length was seen in kid's lower gum and changes were observed in animal physiology.

Tachycardia, tachypnea, mucosal pale of Gum and eyelids, eye tears and fear was seen. After attempting to remove leech from the oral cavity, according to visual characteristics *Limnatisnilotica*was diagnosed (Figure 1).

DISCUSSION

Exposure to the contaminated water is Common cause of infestation to aquatic leeches such as*Limnatisnilotica*.

Reports indicate that first record ofsheep infestation with*Limnatisnilotica* was from the West of Iranin the mouth and pharynx [17].

Mehrzadihas reported simultaneous infestation of cattle, dogs, donkeys and sheep in Iran [18].

A report from South West region of Iranshowed oral infection with *Limnatisnilotica* in a native herd dog. Leech infestation symptoms were Anemia with a hematocrit of 34%, hemoglobin decreasing, localized infection with fibrinolytic degradation, respiratory Distress and fear [19].

Leech infestation was reported in single toes animals from Iran. Oral cavities infestation of a donkey reported from West of Iran. Tachycardia was an important sign of infestation[20].

Reports of large and small ruminant's infestation with leeches have been published. Such as a report of a pregnant native cattle mouth infestation with *Limnatisnilotica* from Ilam (West province of Iran) with symptoms such as Respiratory distress, Anorexia, Anxiety and hematological changes [21].

The infestationof lambs and kids oral cavities with leeches was reported from the west of Iranwhich became infested following the consumption of contaminated water [22].

Leech infestation of birds also has been reported. Bahmaniand coworkersreported infestation of the oral cavity and beak of an indigenous chicken with *Limnatisnilotica*[23].Cases of respiratory tract infestations such ascamels occurred in Iraq's with*Limnatisnilotica*[24].*Limnatisnilotica*leech is an internal aquatic leech that sticks to the mucous membranes of human and animal body such as the pharynx, nasal cavity, nasopharynx and esophagus [25,26].

This report and previous reports [17-24] indicate that the springs water and contaminated waters with leeches are the main sources for internal hirudiniasisOral cavity and its mucosa are the most contaminated places by leeches. Leeches has a strong chemical receiver whichhelp to enter to oral cavity when the animal attempting to drink water that is hooked into oral cavity and cause anemia, weakness and economic losses of livestock.

The use of herbal remedies and medicinal herbs to treat disease (such as parasitic disease) is an appropriate solution [27-44].

Anemia is the most common complication ofleech infestation[19,21].Despite, health promotion, leeches infestation occur in different animals. Therefore,education and awareness increasing of traditional herders about contaminated water and natural springs are necessary and preventive measures should be taken. A prudent approach to prevention of animal'sinfestation with leeches is use ofwaterin containers and ensuring the health and non-pollution of used water.

REFERENCES

1. Varughese, G., S. Baby and A. John, 2010.J. Ethnomedicinal plants in parasitic infections. Ethnomedicine: A Source of Complementary Therapeutics: 53-116.

2. Okyay, P., S. Ertug, B. Gultekin, O. Onen and E. Beser, 2004. Intestinal parasites prevalence and related factors in school children a western city sample-Turkey. BMC Public Health, 4(64): 62-70.
3. Steven, A.M., C. Rosario and E. Rojas, 2003. Intestinal parasitic infection and associated symptoms in children attending day- care-centers in Trujillo Venezuela. Trop Med Int Health, 8(4): 342-347.
4. World Health Organization, 1987. Prevention and control of intestinal parasitic infection. Geneva: Technical Reports Series.
5. Musaiger, A.O., 1989. Intestinal parasitic infection among school children in Bahrain. J. Trop Pediatr., 35(1): 45-6.
6. Hosain, G.M., S. Saha and A. Begum, 2003. Impact of sanitation and health education on intestinal infection among primary school aged children of Bangladesh. Trop Med Int Health, 33(2): 139-143.
7. Park, S.K., D.H. Kim, Y.K. Deung, H.J. Kim, E.J. Yang, S.J. Lim, Y.S. Ryang, D. Jin and K.J. Lee, 2004. Status of intestinal parasites infection among primary school children in Kamongcham, Cambodia. Korean J. Parasitol., 40(3): 153-155.
8. Sharma, B., S.h. Rai, D. Rai and D. Choudhury, 2004. Prevalence of intestinal parasitic infestation in school children in the northeastern part of Katmandu valley, Nepal. Southeast Asian J Trop Med Public health 35(3): 500-505.
9. Collier, L., A. Ballows and M. Sussman, 1998. Toply & Wilson Microbiology & Microbial infections. 9 Th Ed. Arnold.
10. Vera, C., A. Blu and M. Torres, 2005. Leeches, today and yesterday present parasites in Spanish. Rev Chilena Infectol., 22: 32-7.
11. Kuehnemund, M. and F. Bootz, 2006. Rare living hypophryngel foreign body. Head Neak., 28: 1046-8.
12. Haycox, C.L., P.B. Odland, M.D. Clotrea, G.J. Raugi, 1995. Indicaitons and complications of medicinal leach therapy. J. Am. Acad. Dermatol., 33: 1053-1055.
13. Bahmani, M., K. Saki, M. Gholami-Ahangaran, P. Parsaei, A. Mohsenzadegan and N. Zia-Jahromi, 2012. Evaluating the Anti-Leech Activity of Methanolic Extract of *Matricariachamomilla* L. Comparing with Ivermectin, Mebendasole, Praziquantel, Rafoxanide, Febantel and Albendasole Middle-East J. Sci. Res., 12(2): 260-263.
14. Bahmani, M., J. Abbasi, A. Mohsenzadegan, S. Sadeghian and M. Gholami-Ahangaran, 2013. *Allium sativum* L.: the anti-ammature leech (*Limnatisnilotica*) activity compared toNiclosomide. Comp Clin Pathol., 22: 165-168.
15. Bahmani, M., S.A. Karamati, E.Kh. Banihabib and K. Saki, 2014. Comparison of effect of nicotine and levamisole and ivermectin on mortality of leech. Asian Pac. J. Trop Dis., 4(Suppl 1): 477-480.
16. Bahmani, M., T. Farkhondeh and P. Sadighara, 2012. The anti-parasitic effects of Nicotinatabacumon leeches, Comparative Clinical Pathology; 21(3): 357-359.
17. Bahmani, M., P. Zamani, B. Meshgi, R.A. Abdi-Zadeh, 2006. The first reported infestation in sheep at Limnatisnilotica in Iran. Sixth National Conference and the first Regional Congress of Parasitology and Parasitic Diseases. Karaj., 384.
18. Mehrzadi, S., M.H. RaziJalali, M. Bahmani and A. Rahbar, 2007. Report infestation of Limnatisnilotica (leech) in sheep, cattle, dogs and donkeys in the city of Dehloran.Sixth National Conference of Veterinarians Clinical Sciences, Islamic Azad University of Tabriz.p: 648.
19. Bahmani, M., S.H. Nekouei, P. Parsaei, K. Saki and E.K. Banihabib, 2011. Case report infestation with Limnatisnilotica in a Persian male dog from Shahrekord. JMVR; 2(6): 29-32.
20. Bahmani, M., S.A. Karamati, M. Mohamad Hosseini Anari, A. Rahimirad, J. Asadzadeh, A.Kh. Kheiri, Gh. Hajiglolizadeh, F. Ghotbian and F. Bahmani, 2014. Case report of oral cavity infestation in a 3-year old jackass with *Limnatisnilotica* from Ilam province, west of Iran. Asian Pac. J. Trop Dis., 4(3): 210-212.
21. Bahmani, M., Z. Eftekhari,, A. Mohsezadeghan, F. Ghotbian and N. Alighazi,, 2011. Leech (Limnatisnilotica) causing respiratory distressin a pregnant cow in Ilam province in Iran. Comp Clin Pathol., doi: 10.1007/s00580-011-1236-1.
22. Bahmani, M., M. Rasouli, P. Parsaei, E.Kh. Banihabib, K. Saki and F. Ghotbian, 2013. *Limnatisnilotica* infestation in ram and kid in Dehloran city, Ilam province, west of Iran. Asian Pac J. Trop Dis., 3(2): 155-157.
23. Bahmani, M., H. Golshahi, F. Ghotbian and F. Bahmani, 2013. Internal hirudiniasis in a hen (Gallus gallusdomesticus)-The first report in literature. Asian Pac J. Trop Dis., 3(3): 232-234.

24. Al-Ani, F.K. and M.R. Al-Shareefi, 1995. Observation on medical leech (Limnatisnilotica) in camel in Iraq. Journal of Camel Practice and Research 2(2): 145.
25. Fooanant, S., W. Puntasri, M. Manorot and S. Niwasabutra, 2006. A leech in the nasal cavity: case report. Chiang Mai. Med. Bull., 45(1): 27-30.
26. Guerrant, R.L., D.H. Walker and P.F. Weller, 2001. Essentials of tropical infectious diseases. Philadelphia: Churchill Livingstone, pp: 607-608.
27. Amirmohammadi, M., S.H. Khajoenia, M. Bahmani, M. Rafieian-Kopaei, Z. Eftekhari and M. Qorbani, 2014. In vivo evaluation of antiparasitic effects of *Artemisia abrotanum* and *Salvia officinalis* extracts on *Syphaciaobvelata*, *Aspiculoristetrapetra* and *Hymenolepis nana* parasites. Asian Pac J Trop Dis., 4(1): 250-254.
28. Bahmani, M. and M. Rafieian-Kopaei, 2014. Medicinal plants and secondary metabolites for leech control. Asian Pac J Trop Dis., 4(4): 315-316.
29. Eftekhari, Z., M. Bahmani, A. Mohsenzadegan, M. Gholami-Ahangaran, J. Abbasi and N. Alighazi, 2012. Evaluating the anti-leech (*Limnatisnilotica*) activity of methanolic extract of *Allium sativum* L. compared with levamisole and metronidazole. Comp Clin Path., 21: 1219-1222.
30. Gholami-Ahangaran, M., M. Bahmani and N. Zia-Jahromi, 2012. Comparative and evaluation of anti-leech (*LimnatisNilotica*) effect of Olive (*Oleaeuropaea*L.) with levamisol and tiabendazole. Asian Pac J Trop Dis., 2(1): 101-103.
31. Forouzan, S., M. Bahmani, P. Parsaei, A. Mohsenzadegan and M. Gholami-Ahangaran, 2012. Anti-parasitic activites of *Zingiberofficinale*methanolic extract on Limnatisnilotica. Glob Vet., 9(2): 144-148.
32. Ghasemi Pirbalouti, A., M. Momeni and M. Bahmani, 2013. Ethnobotanical Study of Medicinal Plants Used by Kurd Tribe in Dehloran and Abdanan Districts, Ilam Province, Iran. Afr J Tradit Complement Altern Med., 10(2): 368-000.
33. Bahmani, M., M. Rafieian-Kopaei, M. Avijgan, S. Hosseini, H. Golshahi and Z. Eftekhari, 2012. Ethnobotanical studies of medicinal plants used by Kurdish owner's in south range of Ilam province, west of Iran. Am-Euras J Agric Environ Sci., 12(9): 1128-1133.
34. Bahmani, M. and Z. Eftekhari, 2012. An ethnoveterinary study of medicinal plants in treatment of diseases and syndromes of herd dog in southern regions of Ilam province, Iran. Comp Clin Path., 22: 403-407.
35. Saki, K., B. Kazemi-Ghoshchi, J. Asadzadeh, A. Kheiri, G.h. Hajigholizadeh, A. Sotoudeh, M. Rafieian-Kopaei, F. Bahmani, V. Bahmani and M. Bahmani, 2014. J Nov Appl Sci., 3(1): 1298-1302.
36. Bahmani, M., N. Vakili-Saatloo, M. Gholami-Ahangaran, S.A. Karamati, Ekh. Banihabib, G.H. Hajigholizadeh and S.A. Borjian, 2013. A comparison study on the anti-leech effects of onion (*Alliumcepa* L) and ginger (*Zingiberofficinale*) with levamisole and triclabendazole. J. Herb. Med. Pharmacol., 2(1): 1-3.
37. Bahmani, M., E. Banihabib, K. Saki, B. Kazemi-Ghoshji, A. Heydari and M. Hashemi, 2012. Anti-leech and disinfection activities of methanolic extracts of Walnut (*Juglansregida* L.) and Oleander (*Neriumoleander* L.) on *Limnatisnilotica*. World J. Zool., 7(3): 267-272.
38. Bahmani, M., M. Avijgan, M. Gholami-Ahangaran and M. Rafieian, 2012. The comparison of anti *Limnatisnilotica*effets of albendazole and some of the Iranian medicinal plants. Iran South Med. J., 15(1): 25-34.
39. Rafieian-Kopaei, M., 2012. Medicinal plants and the human needs. J Herb Med. Plarmacol., 1(1): 1-2.
40. Bahmani, M., K. Saki, Sh. Yousefizadeh, M. Gholami-Ahangaran and P. Parsaei, 2012. Evaluating the anti-leech effects of methanolic extracts of *Allium sativum* L. and *Allium cepa* L. compared with levamisole. J. Sharekord Univ. Med. Sci., 14(4): 54-60.
41. Bahmani, M., M. Avijgan, S.R. Hosseini, H. Najafzadeh-Varzi and S. Mehrzadi, 2011. Traditional application of medicinal plants in southern area of Ilam province for treatment diseases and clinical syndromes in small ruminants. J. Herbal Drugs., 2: 51-60.
42. Bahmani, M. and E.Kh. Banihabib, 2013. Comparative Assessment of the Anti-Annelida (*Limnatis nilotica*) Activity of Nicotine with Niclosamide. Global Veterinaria, 10(2): 153-157.

43. Bahmani, M., M. Avijgan, S.R. Hosseini and M. Qorbani, 2010. Evaluating the anti *Limnatisnilotica* effects of tobacco methanol extract compared with succinyl choline and some other anti-parasite drugs. Shahrekord J. Med. Sci., 12(3): 53-59.

44. Bahmani, M., M. Rafieian-Kopaei, Z. Eftekhari, EKh. Banihabib, G.H. Hajigholizadeh, F. Bahmani,, J. Azadzadeh, R. Abdollahi, A.gh. Kheyri, A. Sotoudeh, S.A. Karamati and M. Jelodari, 2013. Evaluating the Anti-Leech Effects of Methanolic Extracts of *Peganumharmala*L. and *Oleaeuropaea*L. on *Limnatisnilotica*. World's Vet, J., 3(2): 33-37.