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IDENTIFICATION OF ALAGARDA VARIETY OF LEECH

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Abstract: Several illnesses are cited in Ancient Ayurvedic medical treatises. Ayurvedic surgical science considers leeches are of basically two varieties as poisonous and non-poisonous, both consisting six species each. Identification of such leech types has been ignored till date. Alagarda is one of the poisonous type detailed in texts. This article scrutinizes and reviews all the species of leech which matches the descriptions of Alagarda type of leech. Key identification feature of Alagarda type of leech is the presence of Chaetae and its toxic effects on the prey animal. Branchellion torpedinis, Ozobranchus Shipley, Acanthobdella peledina, Ozobranchus margo are the species of leeches which possess chaetae and after verifying the morphological features of individual species, Branchellion torpedinis seems to match the descriptions of Alagarda leech.

key words – Leech, *Alagarda*, *Branchellion torpedinis*, *Ozobranchus*

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INTRODUCTION:

Leeches are termed as “*Jalauka*” in Ancient Ayurvedic treatises and provide the foremost scientific, detailed documentation about the description and utility of leeches in various ailments. ^{1,2,3} *Sushruta Samhita*, the surgical treatise of Ayurveda enlists different types of leeches and also details the identification of each type of leeches, their habitat, handling and preservation. ⁴ The text quotes 12 types of leeches among which six are poisonous and the remaining six are non-poisonous. ⁵ Adverse

events precipitated by certain types of the leech bite place them in the category of poisonous which is unique and no other zoological texts across globe has point out.

Aim: To identify the Alagarda type of leech with contemporary zoological species

Method: The leech species were screened in Google Scholar by the keywords – leech species, leech with chaetae, poisonous leech. The details of Alagarda type of leech available in Ayurvedic treatise.

Observations

Table No.1. depicts the comparison of leeches:

Features	Branchellion torpedinis ^{13,14,15}	Ozobranhus shipleyi Harding ^{16,17,18}	Acanthobdella peledina ^{19,20}	Ozobranhus margoii ^{21, 22, 23}
Habitat	Marine water ²⁴	Large rivers	Freshwater locations of northern Europe, Asia and Alaska ²⁵	Atlantic coast of the United states and Gulf of Mexico
Phylum	Annelida	Annelida	Annelida	Annelida
Class	Clitellata	Clitellata	Hirudinea	Hirudinea
Order	Rhynchobdellida	Rhynchobdellida	Acanthobdellida	Rhynchobdellida
Family	Piscicolidae	Piscicolidae	Acanthobdellidae	Ozobranhidae
Colour	Brownish black	Dull yellow	Olive green	White with large dark spots
General features	Two sharply defined regions of the body wherein anterior part is partly invaginated into the posterior region.	Flattened body, Small elongate rounded leeches. 11 pairs of lateral gill-branchiae. Total number of rings – 49 Eyes – one pair	Anterior sucker is absent. It possess forty hooked chaetae. Its body consists of 29 segments.	It has 5 pairs of finger shaped gills. It has suckers on each end of their bodies.
Length	30-50mm, width – 8-16mm	1.3-3.7mm	23mm	10-15mm long

Among the four species analyzed, *Branchellion torpedinis* seems to match the descriptions mentioned for *Alagarda* type of Leech as it matches the color and presence of chaetae whereas the other species differ in color.

DISCUSSION :

The six poisonous leeches are *Krishna*, *Karbura*, *Alagarda*, *Indrayudha*, *Samudrika* and *Gochandana*.⁶ In this article, one among these poisonous leeches, '*Alagarda*'s descriptions are scrutinized. All the strains of leeches cited in *Sushruta's* treatise has not been identified, hence this is an attempt to identify the specific variety of *Jalauka* with that of existing zoological data available on leeches.

Features of Alagarda variety of Leech:

Romasha - Hairy Skin – Presence of Chaetae
Mahaparshva - Broad Trunk or Waist
Krishna Mukhi - Black coloured – Head end
Savisha - Produces Toxic Symptoms
Manda gati - Slow activity

General Features of Poisonous Leech:⁷

Screening of the details mentioned about the description of leeches in the text suggests

Regarding the toxic symptoms of leech no study till date has reported however all of these species rely on invertebrate organisms mainly for feed.

that mostly all poisonous leeches grow in an unhygienic habitat and feed on invertebrates usually and also on rotten aquatic plants. The appearance of leeches is usually unattractive, ugly and has sluggish motility. Identification of leech species is based on the annulations, external features, habitat and arrangement of eyes and the positions of the male and female genital pores.^{8,9,10}

The key identification of *Alagarda* type of *Jalauka* is mainly by the presence of 'Chaetae', a pair of fleshy protrusions with many bristles on the lateral aspect of the leeches.^{11,12} Hence the leeches with chaetae are screened and are tabulated in Table No 1

Conclusion: Leeches are one of the best biological tool to cure numerous ailments. Identification of different types of leeches mentioned in Ayurvedic texts is the need of the hour. One such variety, *Alagarda* type of leech can be correlated to the existing species *Branchellion torpedinis*.

SOURCE OF SUPPORT – Nil

CONFLICT OF INTEREST – There is no conflict of interest.

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