

Āyurveda and Elephant: A Study of Elephant from Medical Sciences

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Elephant plays significant role in the life of the human beings. His hugeness, his strength, his body with its tusks and even his bones are used by the humans for various purposes. He is used in the battles and wars for his size and strength and his body parts like tusks [ivory] and bones are used for jewelry and in related cosmetics industry. Medicine is also a field in which the elephant bi-products are used. They have been used since long as can be seen from the *Āyurvedic* literature.

This paper will try to study the elephant from ancient medical science of *Āyurveda* and see how the elephant and elephant products were tested and used for the benefit of the mankind. This paper will also try to study whether that remedies or medicines are applicable today or not, are they still used for the purpose of medicine

The *Āyurveda* mentions certain medicines with reference to elephant and they are seen in the *Sushrut samhita cikitsā sthana*, *Carak cikitsā Arsha* and so on. *Carakacharya* has explained eight types of urine; they are urines of sheep, goat, cow, buffalo, elephant, camel, horse and ass. In general urine is sharp, slightly non unctuous, pungent saline, and useful in anointing, pasting, non-unctuous enema, purgatives, Abdominal disorders etc.

उष्णं तीक्ष्णमथोऽरूक्षं कटुकं लवणान्वितम् ॥१५॥
मूत्रमुत्सादने युक्तं युक्तमालेपनेषु च ।
युक्तमास्थापने मूत्रं युक्तं चापि विरेचने ॥ १५ ॥
स्वेदेष्वपि च तद्युक्तमानाहेष्वगदेषु च ।
उदरेष्वथ चार्शःसु गुल्मिकुष्ठिकिलासिषु ॥ १६ ॥
तद्युक्तमुपनाहेषु परिषेके तथैव च ।
दीपनीयं विषघ्नं च किमिघ्नं चोपदिश्यते ॥ १७ ॥
पाण्डुरोगोपसृष्टानामुत्तमं शर्म चोच्यते ।
श्लेष्माणं शमयेत् पीतं मारुतं चातुलोमयेत् ॥१८॥
कर्षेत् पित्तमधोभागमित्यस्मिन् गुणसंग्रहः ।
सामान्येन मयोक्तस्तु पृथक्त्वेन प्रवक्ष्यते ॥ १९ ॥

Elephants urine is salty in teste, beneficial for patients of worms infections (*Krimi*) and *Kushta* (Skin Disorders) and recommended for retention of urine and faeces, it neutralizes effects of poisons, disorders of *Kapha* and Its use is good in piles also. (*Carak Sootrasthan*1/102)..

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अर्शःशोफोदरघ्नं तु सक्षारं माहिषं सरम् ।
हास्तिकं लवणं मूत्रं हितं तु क्रिमिकुष्ठिनाम् १०२ ॥

Urine is used in the form of internal application by drinking and through its external application by mixing it with some powdered drugs.

Table Urine analysis comparison between the sexes according to Modern Science.

Value	Male	Female	P value
SG	1.029+0.010	1.029+0.008	0.365
pH	7.6+0.9	8+0.6	0.126
Protein	0	0 - 1+	0.01*
Glucose	<100	< 100	1

The milk of elephants promotes strength, is heavy and good stabilizer. (*Carak Sootrasthan 27/223*)

हस्तिनीनां पयो बल्यं गुरु स्थैर्यकरं परम् ॥ २२३ ॥

Elephant Milk Composition according to Modern Science

Species	Fat %	Protein %	Lactose %	Ash %	Total solids %
Elephant	15.1	4.9	3.4	0.76	26.9

Table is adapted from course notes by Robert D. Bremel, University of Wisconsin and from *Handbook of Milk Composition*, by R. G. Jensen, Academic Press, 1995.

Hasti danta masi and *rasanjana* mixed with cow's urine (*Gomutra*) local application is good for *indralupta* (Alopecia) (*Sushrut samhita cikitsa sthana 1/101*),

हस्तिदन्तमसीं कृत्वा मुख्यं चैव रसाञ्जनम् ॥
रोमाण्येतेन जायन्ते लेपात्पाणितलेष्वपि ॥ १०० ॥

Hasti danta masi and *rasanjana* mixed with goat's urine local application is good for *Indralupta* (Alopecia) (*Bhavprakash Madhyam khanda 61/10*),

Bhavprakash has used goat's urine instead of cow's urine.

Rasanjana (Aqueous Extract of Berberis aristata Roots)

It is one of the herbs mentioned in all ancient scriptures of *Āyurveda*. *Caraka* and *Susruta* have mentioned its different properties along with various used for the treatment of numerous illnesses. As it resembles in its properties to those of *haridra*, both the herbs have been mentioned together as *haridra dvaya*, meaning two *haridras* viz. *haridra* and *daruharidra*. *Caraka* has categorized *daruharidra* as *stanyasodhana* – lactose purifier, *lekhana* – a reducing herb, *arsoghna* – anti – haemorrhoidal, *kandughna* — anti – pruritic and as *svedala* – promotes sweating, *rasayana* – rejuvenative. *Susruta* have mentioned it as *ropana* – a wound healer

Daruharidra is useful both, internally as well as externally. *Rasanjana* is a crude, concentrated extract prepared from the root and stem bark of several species of the genus *Berberis* L, Family *Berberidaceae*. Out of 55 species 21 species are found in Himachal Pradesh. *Rasanjana* is a useful remedy in several ailments including conjunctivitis, bleeding piles, skin eruption, ulcer, jaundice, in eye diseases.

Ivory is a hard, white material from the tusks (traditionally elephant's) and teeth of animals, that can be used in art or manufacturing. It consists mainly of dentine (inorganic formula $\text{Ca}_{10}(\text{PO}_4)_6(\text{CO}_3) \cdot \text{H}_2\text{O}$), one of the physical structures of teeth and tusks.



Hastidanta (Tusks / ivory). Picture courtesy :Gangarām Temple Sri Lanka.

Alopecia areata (Indralupta) is a prevalent autoimmune skin disease resulting in the loss of hair on the scalp and elsewhere on the body. It usually starts with one or more small, round, smooth patches on the scalp and can progress to total scalp hair loss (*alopecia totalis*) or complete body hair loss (*alopecia universalis*). The scalp is the most commonly affected area, but the beard or any hair-bearing site can be affected alone or together with the scalp. *Alopecia areata* occurs in males and females of all ages, but onset often occurs in childhood. Over 6.6 million people in the United States and 147 million worldwide have, had or will develop *alopecia areata* at some point in their lives.

Alopecia areata is a highly unpredictable and cyclical condition. The affected hair follicles become very small and produce no visible hair above the skin's surface. Hair can grow back in or fall out again at any time, and the disease course is different for each person. No matter how widespread the hair loss, most hair follicles remain alive and are ready to resume normal hair production whenever they receive the appropriate signal. In all cases, hair re growth may occur even without treatment and even after many years.

Alopecia is a type of hair loss that occurs when our immune system mistakenly attacks hair follicles where hair growth begins. The cause is unknown. Women and men are affected equally. Alopecia areata usually begins when clumps of hair fall out, resulting round hairless patches on the scalp. About 10 % of people with this condition may never re grow hair if they have family history or due to autoimmune disorder, allergy. In Modern science Corticosteroid and minoxidil are used. Results can be disappointing. Doctors and scientists invented dozens of terms for baldness that infact don't explain anything.

Hasti danti Mashhi (Bhasma /Ash of Tusk) is very effective on Alopecia areata. But due to animal protection act *Hastidanta* (Ivory) is banned in India at present. We give local treatment as wel as *Yurvedic* life style, correct metabolism, general tonics for improving hair growth and panckarma therapy.

Fumigation is efficacious with excreta of elephant, *sarja rasa* and ghee (*Carak cikitsa Arsha*14/51) is good for piles. There are references about the use of these medicines in the *Āyurveda*.



कुञ्जरस्य पुरीषं तु घृतं सर्जरसस्तथा ॥ ५१ ॥

Piles (haemorrhoids) are swellings that can occur inside and around the back passage (anus) and the anal canal. The anal canal is the last part of the large intestine and is about 4 cm long. At the lower end of the anal canal is the opening to the outside (usually referred to as the anus), through which faeces pass. At the upper end, the anal canal connects with the rectum (also part of the large intestine). There is a network of small veins (blood vessels) within the lining of the anal canal. These veins sometimes become wider and engorged with more blood than usual. The engorged veins and the overlying tissue may then form into one or more small swellings called piles.

Common causes of Piles are Constipation, passing large stools (faeces), and straining at the toilet. These increase the pressure in and around the veins in the anus and seem to be a common reason for piles to develop, second is Pregnancy. Piles are common during pregnancy. This is probably due to pressure effects of the baby lying above the rectum and anus, and the affect that the change in hormones during pregnancy can have on the veins, third is Ageing. The tissues in the lining of the anus may become less supportive as we get older and hereditary factors. Some people may inherit a weakness of the wall of the veins in the anal region. There are various treatments Viz. Ointment, hot sit's bath,

Medicinal and surgical treatment. These are Injection sclerotherapy, Infrared coagulation/ photocoagulation. Haemorrhoidectomy (the traditional operation) Haemorrhoidal artery **ligation** - the small arteries that supply blood to the piles are tied (ligated). This causes the hemorrhoids to shrink.

Fumigation is efficacious with excreta of elephant; *sarja rasa* and *ghee* in piles in these hemorrhoids get burn and cut off the circulation, which causes it to shrink in size. It seems to be as effective as banding treatment and injection sclerotherapy for first- and second-degree piles.

Elephant dung does not smell bad. If it does smell that bad then may be the elephant is ill.

On average an elephant will eat 200-250kg of food a day from that we get 50kg of dung.

The resin from a tree *Vateria indica* Linn. is therapeutically known in Indian traditional systems of medicine (Ayurveda and Siddha). It is known as *Sarja rasa* in Ayurveda and *Vellai Kungiliyam* in Siddha. Studies have shown that the resin possesses resveratrols having anti-tumour properties. The resin from a tree *Vateria indica* Linn. is therapeutically known in Indian traditional systems of medicine (Ayurveda and Siddha). It is known as *Sarja rasa* in Ayurveda and *Vellai Kungiliyam* in Siddha. Studies have shown that the resin possesses resveratrols having anti-tumour properties. The resin from a tree *Vateria indica* Linn. is therapeutically known in Indian traditional systems of medicine (Ayurveda and Siddha). It is known as *Sarja rasa* in Ayurveda and *Vellai Kungiliyam* in Siddha. Studies have shown that the resin possesses resveratrols having anti-tumour properties. The resin from a tree *Vateria indica* Linn. is therapeutically known in Indian traditional systems of medicine (Ayurveda and Siddha). It is known as *Sarja rasa* in Ayurveda and *Vellai Kungiliyam* in Siddha. Studies have shown that the resin possesses resveratrols having anti-tumour properties.

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Conclusion

The Milk, Urine, Dung and *Hastidant* of elephant have great significance in ancient medical sciences.

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