



ROLE OF AYURVEDIC AGNIKARMA CHIKITSA IN THE MANAGEMENT OF JANGAM VISHAKTATA (ANIMATE POISONING) WITH RESPECT TO CAUTERIZATION IN MODERN SCIENCES

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ABSTRACT

Humans are constantly exposed to various *jangam vishaktata* (animal bites) in their routine life. These bites leads to various toxic effects on human body or sometimes even capable of resulting in death of the victim also. In ancient times, *Ayurveda* exclusively used *agnikarma upakrama* (cauterization therapy) to treat *jangam vishaktata* (animate poisoning) and various diseases and symptoms related to it. But now due to advanced techniques and modalities of treatment, its use is restricted to prevention of excessive bleeding. But in tribal areas where advanced modern facilities are not available, even today the use of *agnikarma upkrama* (cauterization) can be very useful either to prevalent or to alleviate these toxic effects. The aim of this review research paper is to corroborate available research work in this field and establish the efficacy of *agnikarma upakrama* in *jangam vishaktata* (animal bites).

KEYWORDS: Ayurveda, Agnikarma, Cauterization Therapy, Upakrama, Jangam Vishaktata.

INTRODUCTION

Ayurveda, the intimate part of *Atharva veda*, has eight^[1] major clinical disciplines (*Ashtang Ayurveda*) namely *Rasayana*, *Vajikaran*, *Kayachikitsa*, *Shalyatantra*, *Shalakatantra*, *Bhutvidya*, *Agadatantra*, *Kaumarabritya*. The main purpose of *Ayurveda* is to maintain the health of healthy individuals and cure the disease of diseased one.^[2] To maintain the health of healthy person, preventive treatment is given which includes *rasayana* and *vajikarana chikitsa* and to cure the disease of sick person, curative treatment is given which includes various diseases and its managemet by *shaman* and *shodhan chikitsa*.

Agadatantra^[3] is one of the branch of *Ayurveda* which is meant for diagnosis and treatment of various poisoning cases like with bites by snakes, insects, spiders, rats etc. and also with other poisonous substances. In treatment of animal bites various curative treatment like *dahan*, *pratisaran*, *raktamokshana* etc were mentioned in *Agadatantra*.

AIM AND OBJECTIVE

This study intends to study the concept of *Agnikarma chikitsa* in the treatment of poisoning with special reference to cauterization in modern sciences.

Recollect and arrange all the scattered references in different ancient texts related to *Agnikarma chikitsa* and also the references of cauterization in modern sciences.

MATERIALS AND METHODS

The whole study is based on literary review collected from classical *Ayurveda* texts and Modern text books.

This study is carried out under following heads

- Definition of *visha*.
- Types of *visha*.
- Definition of *jangam visha* and their sites (*adhishthana*).
- *Visha vega*.
- *Mansa dhatu dushti chikitsa*.
- *Agnikarma chikitsa*.
- Cauterization in modern view.
- Discussion.
- Conclusion.

Visha

There is no explicit definition of *Visha* in classical *Ayurvedic* texts. These texts give the etymology of the word *Visha*. The word *Visha* originated from two different words – *Vishad* means despair and *Vishvak* means everywhere. A substance which produces vitiation of *dhaatu* can be called as *Visha*.^[4]

As per *Sushrut Samhita* a substance producing despair is called as *visha*.^[5] Perhaps the most comprehensive definition of *Visha* is, any substance which enters the body from any route, vitiates bodily tissues, leads to destruction of health or life can be called as *visha*.^[6]

Types of *Visha*: Poisons are generally classified in to two types namely *sthaavara visha* (vegetable origin) and *jangam visha* (animal origin).^[7]

Poisons which are derived from *kand* (tubers) are static in nature and hence known as *sthavara visha* (inanimate poison). E.g. *Kalkuta*, *Halahal*, *Shringik*. Here the term *kand* (tuber) represents the rest of nine *adhishthanans* (parts of plants) also.

Definition of *jangam visha* and their sites

Poisons which are derived from *danshra* (bite) are mobile, hence known as *jangam visha* (animate poison). Here also the term *danshra* (bite) includes the rest of fifteen *adhishthanans*.

As per *Sushrut samhita*, there are sixteen sites of poison in the body of venomous animals.^[8] An animal poison is usually situated in the following parts, viz; the sight, breath, teeth, nails, urine, stool, semen, saliva, menstrual blood, stings, *vishardhita* (Flatus), anus, bones, bile, *shuka*(bristles) and in the dead body of an animal. Of these, the venom of celestial serpents lies in their sight and breath, that of the terrestrial ones in their fangs while that of cats, dogs, monkeys, makara, frogs, *paka matsyas* (a kind of insect), lizards, molluscs, *prachalakas*, domestic lizards, four legged insects and of any other species of flies such as mosquitoes etc., lies in their teeth and nails. The venom of *chipita*, *pichchataka*, *kashayavasika*, *sarshapa vasika*, *totaka*, *varchah-kita*, *kaundilyaka* and other such insects lies in their urine and excreta. The poison of a mouse or rat lies in its semen, while that of a *Luta* (spider) lies in its saliva, urine, excreta, fangs, nails, semen and menstrual fluid. The venom of a scorpion, *vishvambhara*, *rajiva* fish, *uchchitinga* and a sea scorpion lies in their saliva. The venom of a *chitra sirah*, *sarava*, *kurdisata*, *daruka*, *arimedaka* and *saika mukha* lies in their fangs, *vishardhit* (flatus), stool and urine. The venom of a fly, a *kanabh* and leeches lies in their fangs. The poison lies in the bones of an animal killed by any poison, as well as in those of a snake, a *varati matsya*. The poison lies in the bile of a *shakuli*, a *rakta raji* and a *charaki* fish. The poison lies in the bristles (*shuka*) and the head of a *sukshma tunda*, an *uchchitinga*, a wasp, a centipede, a *shuka*, a *vala bhika*, a *shringi* and a bee. The dead body of a snake or an insect is poisonous in itself. Animals not included in the above list should be deemed as belonging to the fang venom species i.e., the poison lies in their fangs.^[9]

Visha vega

Visha vegas^[10] are stages of effects of poisons by which one can guess the severity of poisoning. One can

conclude the extent up to which the poison has reached in the body. On that basis prognosis of the poisoning can be done. In human being there are 7 to 8 *vegas*, in animals 4 *vegas* whereas in the birds there are 3 *vegas*, depending on the *pranshakti* of the animal.

When poison enters in *rasa dhatu*, it causes first *vega*, when it enters in to *rakta dhatu* that is second *vega*, in *mansa dhatu* it is third *vega*, like wise when *visha* vitiates *shukra dhatu* it will be seventh stage of poisoning; which is followed by death. Death is counted as eighth *vega* by *achaarya Charak*.^[11]

Stimulated by *vaata*, when *visha* enters one *dhatu* from the other, it passes through the *kalaa*, which is situated between two *dhatu*s. The time taken for this process is called *vegaantara*.^[12] *Dhatu*s which are covered well by muscles, in contact with *jaraayu* and *kapha* are called *kalaa*. The number of *kalaa*^[13] are seven, which are the borders of *dhatu*s in their *aashayas*. Out of seven, the name of first *kalaa* is *mansadhara kalaa*. The branches of *Shiva dhamani*, *snaayu*, *srotasa*, *prataana* etc reside in *maansa*. If the poison is spread over *twacha* and *mansa*, then it can be treated by *Dahan Karma*^[14] (cauterization). Local action of *visha* is neutralized by *Dahan karma*.

Mansa dhatu dushti chikitsa

The *jangam visha*^[15] (Animal poison) produces sleep, drowsiness, exhaustion, burning sensation, *paak* (inflammation), horripilation, *shoph* (oedema), and diarrhoea. These symptoms are more similar with *mansadhatu dushti*. As per *Charak*^[16], *adhimansa*, *mansarbuda*, *mansakil*, *galashaluk*, *galashundi*, *putimans*, *aalji*, *gand*, *galagand*, *upajivhika* these symptoms are seen due to *mansadhatu* vitiation. In these symptoms *putimansa* means destruction of the *mansadhatu* which is also seen in inanimate poisoning. In treatment of *mansadhatu dushti*^[17] curative methods are indicated like *sanshodhan*(purification), *shastrakarma* (surgical), *ksharprayoga* (cautery by alkali), *agnikarma* (cautery). In treatment of inanimate poisoning^[14], if the poison is spread over *twacha* and *mansadhatu* then *agnikarma* is indicated. *Agnikarma* helps to neutralise the local action of *visha*. The twenty four^[18] modes of treatment applicable to inanimate as well as inanimate envenomation are said by *Charak* which also include *agnikarma*. When the bite is on a part of the body that cannot be subjected to *arishtha bandhana* such as the trunk or face, *agnikarma* on that site is indicated. The bite spot should be burned with red-hot gold, iron or ember from the burning red-hot tip of log. Fire is capable of annihilating everything, then why not the venom?^[19] In toxicity resulting from a wound caused by poisoned arrow, the site of wound should be burned by red hot metal after removing the poisoned arrow.

Agnikarma chikitsa

Agnikarma chikitsa is usual treatment in the diseases which are produced by *vata* or *kapha dosha*. It is a local

treatment, applied in disorders located in skin, muscle and blood vessels etc. While describing *Agnikarma chikitsa*, *Sushruta* said that diseases which are not curable by *shastrakarma*, *ksharkarma* or *bheshajakarma* can beneficially be treated by *agnikarma chikitsa* and diseases successfully treated by *agnikarma* have no recurrence.^[20]

Various substances are used for *Agnikarma chikitsa* e.g. *pippali*, goat's faeces, cow's tooth, arrow, rod, *jambavaustha* (a wick shaped instrument made of stone) and other metallic instruments, and also honey, jaggery and fatty substances. Among them *pippali*, goat's faeces, cow's tooth, arrow and rods are applicable in diseases located in skin, *jambavaustha* and other metallic instruments are indicated in those located in muscle while honey, *jaggery* and fatty substances are useful in those affecting blood vessels, ligaments, joints and bones.^[21]

Cauterization may be performed in all seasons except autumn and summer, there also, in emergent conditions treatable by cauterization, it may be performed preceded by contrary measures.^[22] Appearance of sound, foul smell and constriction of skin are the signs in skin burning; pigeon's colour, little swelling and pain along with dry and constricted wound are in muscle burning; black and raised wound and cessation of discharge are in burning of blood vessels and ligaments while in that of joints and bones are roughness, dark reddishness and hard and firm wound.^[23]

Cauterization should also be performed in case when *vayu*, with intense pain, is situated in skin, muscle, blood vessel, ligament, joint and bone, wound with raised, hard and numbed granulation; in glands, piles, tumours, fistula-in-ano, scrofula, elephantiasis, wart, mole, inguinal hernia and joint and cutting of blood vessel etc. and also in sinus and excessive haemorrhage.^[24]

As per Charak, in bites by animal *agnikarma chikitsa* is indicated.^[18,25] Except the bite of *mandali* (snake with patches) which is *pitta* predominant (causing aggravation of *pitta*) all other bites, should be burnt (cauterised) by heated rods of gold, iron etc or even by a burning faggot. The fire converts everything into ash immediately, even earlier than a second.^[26] Similarly in *Luta*(spider) bite *agnikarma chikitsa* is indicated. Immediately after the spider bite, the sting should be removed out from the site with a sharp instrument and the site burnt (cauterised) by heated *jambavostha* etc, cauterisation not to be done if *pitta* symptoms are predominant.^[27] The person wounded by the poisoned weapons, if not wounded in the vital organs (*marma*), should be given *hridayaavarana chikitsa* (therapies to protect the heart) quickly; the foreign body (having poison) removed and the wound burnt with a heated iron rod.^[28]

Cauterisation is applied in the following ways – circular, pointed, variously linear and flat.^[29] The physician

should perform cauterization after considering well the shape and size of the lesion, vital spots and strength or otherwise of the patient's disorder and season. Avoidables also are stated in this verse such as *balabalam* indicates that it should be applied in strong patients and avoided in debilitated ones. Similarly, *vyadhi* indicates that the diseases caused by *vata* and *kapha* should be taken up for cauterization while those caused by *pitta* should be avoided; as regards seasons it should be done in early winter etc. and avoided in autumn and summer; the repetition of *aveksya samyak* is for emphasis on proper examination.^[30] In proper burning, the part should be anointed with honey and ghee. The application of honey and ghee is meant for pacification of *rakta pitta* vitiated by cauterization and also for alleviation of pain.^[31] Cauterization is contraindicated in the following cases – *paittika* constitution, internal haemorrhage, ruptured viscera, unextracted foreign body, debilitated, child, old, timid, affected with multiple wounds and those contraindicated for sudation. In cases of internal haemorrhage and ruptured viscera there may be burning sensation, suppuration etc. by checking blood.^[32]

Cauterization in modern view

Cauterization is the burning of a body part to remove or close off a part of it in a process called cautery, which destroys some tissue in an attempt to mitigate bleeding and damage, remove an undesired growth or minimize other potential medical harm, such as infections when antibiotics are unavailable.^[33] Its utility before the advent of antibiotics was said to be effective on several levels:
i) To stop severe blood loss and to prevent exsanguinations ii) To close amputations.

Cautery was historically believed to prevent infection, but current research shows that cautery actually increases the risk for infection by causing more tissue damage and providing a more hospitable environment for bacterial growth.^[34] Actual cautery refers to the metal device, generally heated to a dull red glow, that a physician applies to produce blisters, to stop bleeding of a blood vessel and other similar purposes. Cauterization was used to stop heavy bleeding, especially during amputation. The procedure was simple: a piece of metal was heated over fire and applied to the wound. This would cause tissues and blood to heat rapidly to extreme temperatures in turn causing coagulation of the blood thus controlling the bleeding, at the cost of extensive tissue damage.

Cautery is described in the Hippocratic Corpus.^[35] The cautery was employed for almost every possible purpose in ancient times; as a counter irritant, as a haemostatic, as a bloodless knife, as a means of destroying tumors, etc. Later, special medical instruments called cauters were used to cauterize arteries.

The main forms of cauterization used today are electro-cautery and chemical-cautery, both are, for example,

prevalent in the removal of unsightly warts. Cautery can also mean the branding of a human, either recreational or forced.

Electro-cauterization is the process of destroying tissue (or cutting through soft tissue) using heat conduction from a metal probe heated by electric current. The procedure stops bleeding from small vessels (larger vessels being ligated). Electro-cautery applies high frequency alternating current by a unipolar or bipolar method. It can be a continuous waveform to cut tissue, or intermittent to coagulate tissue.

Many chemical reactions can destroy tissue, and some are used routinely in medicine, most commonly to remove small skin lesions such as warts or necrotized tissue, or for hemostasis. Because chemicals can leach into areas not intended for cauterization, laser and electrical methods are preferable where practical. Some cauterizing agents are: Silver nitrate, Trichloroacetic acid, Cantharidin.^[36]

In treatment of animal and insect bite, cautery treatment is also mentioned to control bleeding. During the year 1935, certain experiments were performed with a view to ascertaining whether ultra violet rays could be more efficiently applied to wounds resulting from bites of rabid animals, than the usual methods of cauterisation. The lamp available was one known as Kromayer and quartz applicators were used to transmit the ultra violet rays directly to the infected site.^[37]

DISCUSSION

In ancient times, *Ayurveda* used *agnikarma* (cauterisation) to treat *jangam vishaktata* and various diseases and symptoms related to it. Now a days, cauterisation is exclusively used either to stop bleeding or to remove unwanted growths.

As per *Ayurveda*, *agnikarma* is specially indicated in *mansa dhatu dushti* and as per modern sciences, cauterisation is indicated at soft tissue areas and those areas having small blood vessels.

Ayurveda has considered many different aspects of *agnikarma* with reference to its procedure, indications and contraindications. It has precisely mentioned the colour of skin, appearance and even the smell to judge the degree of *agnikarma*. *Agnikarma* pattern and its extent is described as circular, pointed, linear, flat etc. The contraindications are also described on the basis of *balabalalam*.

Agnikarma is executed with the help of *pippali*, goats faeces, cow teeth, arrow rod, *jambvoshta* and other metallic instrument were used. Whereas cauterization is done with the help of metal object or electro-cautery. So it is quite evident that even though the names are

different but its indications and the basic principle behind it is more or less the same.

In short, I will say the use of heating object to decrease bleeding or tissue damage is the main principle in cauterization and *agnikarma* both. Cauterization is only a small part of *agnikarma* because now a days it only used to remove or close off a body part. Whereas in *ayurveda*, *agnikarma* is concisely described and also extensively used. In *jangam vishachikitsa* when the bitten part can not be subjected to *arishtabandhan*, such as trunk, face etc. *Agnikarma* is indicated.

In *Jangam vishaktata agnikarma* prevalent the *vishvega*, also it help to abate *mansa dhatu dushti*. By doing *agnikarma*, we need to transfer *Agni* in quantum. This *Agni* is transferred to *dushya (dhatu)*. The pathology in *dushya* is treated by neutralizing the vitiated *doshas* as *agni guna*. In transferred *agni* again used to do the *utkleshana* (aggravate) of *dhatvagni*, which act against vitiated *dosha* in *dushya* by *dosh- pachana* action thus, the *vishaktata* is neutralized.

CONCLUSION

In ancient times, *agnikarma* was routinely practised in the treatment of *jangam vishaktata*. But now due to advanced techniques and modalities of treatment, its use is restricted to prevention of excessive bleeding by cautery. In tribal areas where advanced modern facilities are not available *agnikarma upkrama* can be used to prevalent or to alleviate the toxic effects especially the *jangam vishaktata*.

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