



Analysis of Role of Swedana in Jwara

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ABSTRACT

The first disease mentioned in Charaka Samhita is Jwara (Fever). The mythology behind the origin of Jwara (Fever) is the Rudrakopa (Anger) of Lord Shiva. Fever is the increase body temperature above the set point. Various treatment has been explained in Ayurveda from Langhna(Fasting), Swedana(Sudation)to Basti karma(Enema procedure). Modern medicine also mentioned, treatment for fever i.e., cold sponging, cold water bath, antipyretics etc. Both the sciences have mentioned two opposite treatments for fever (Jwara).Here in this review article, we have tried to explain the two different treatment modalities and their application in Jwara(Fever) condition. We also tried to explained the utility of the Swedana(Sudation) and Sheeta Upacahar(Cold treatment) in different condition of Jwara(Fever).With the review of the Ayurvedic Samhita it is evident that Ayurveda not only focusing on Swedana(Sudation) but also explained about the Sheeta Upachara(Cold therapy) for fever.

Keywords: Jwara, Fever, Cold sponging, Swedana

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INTRODUCTION

Fever is the most common symptom with which a patient visits hospital OPDs and clinics very often. Fever is raised body temperature as compared to normal daily variation i.e. morning oral temperature more than 37.2°C and evening oral temperature more than 37.7°C. It occurs in relation with increase in the hypothalamic set point [1]. The rising in the core body temperature above the set point is due to inadequate dissipation of heat, which is often, but not necessarily, part of the defensive responses of body to protect itself from microorganism or another invasive host. According to modern sciences, antipyretic and cold sponging, tepid bath etc are advised for remission of hyperpyrexia [2].

Jwara(fever) is the first disease explained in *Charaka Samhita* with prime importance, including its etiology, pathogenesis, prodromal symptoms, symptoms, types, management, and diet. It is the disease which present at the time of birth and death [3].

For treatment of Jwara(fever) at different stages and according to its type different internal and external remedies are suggested in *Ayurvedic* treatises. Swedana (Sudation), Abyanga (Massage), Pradeha (Ointment), Parisheka (Sprinkling of water), Dhupana (Fumigation), application of Anjana (Collyrium) are advised as external treatment [4].

Swedana (Sudation) is identified as one most frequently observed procedure adopted in day-to-day life during initial stage of fever. This therapy is recommended and is being practised since centuries as house hold measure to control fever.

Both the sciences have explained two apparently opposite treatment modules. In fact, considering *Ayurvedic* principles of pathophysiology (*Samprapti*) of Jwara(fever), application of any external or internal cooling agent can worsen the pathophysiology. In same way, in view of modern sciences, increasing body temperature using external heat (Swedana) can worsen the condition. However, in practice both the treatment modalities are advised and are known to remit the fever spike. Hence, in depth analysis is required to bridge the gap between two health sciences.

AIM

1. To understand the rationality behind of Swedana(Sudation)advice in the management of Jwara(Fever).
2. To understand the concept of cold water sponging to reduce the body temperature.

MATERIAL AND METHODS

For this study, Ayurveda Samhitas – *Charaka Samhita*, *Sushruta Samhita*, *Astanga Sangraha* and online journals in which study related to fever conducted according to modern science are reviewed.

OBSERVATION

While explaining pathology of *Jwara*, *Charaka* has explained role of *Mala* which initiate the pathology. In this context *Mala* are vitiated *Vata*, *Pitta*, *Kapha*, either alone or in different combinations of two or all *Dosha*. These together does the *Avarna* of *Agni* (Digestive fire). Therefore, these *Dosha* move the *Agni* (Digestive fire) away from its residing place (*Grahani*), through the channels carrying *Rasa Dhatu*, to the whole body. This combination of *Sama dosha* with *Agni* obstruct different *Srotasa* (channels) which in turn causes accumulation of *Dosha* and *Agni* in almost all channels and increases body temperature. Here *Agni* plays a very important role [5].

According to modern sciences, fever is a result of pyrogen. Pyrogen may be exogenous or endogenous, depending upon their nature of origin. When these pyrogens attack to the body, it triggers the production of cytokine. Cytokine are the secreted protein which maintain the intercellular communication between nervous system and immune system. Common cytokine which are responsible for generation of fever are Interleukin-1 (IL-1), Interleukin-6 (IN-6) and tissue necrosing factor (TNF). After the discharge of cytokine into the circulatory system, they tend to bind with specific receptors present on the epithelial, vascular system. Consequently, prostaglandin-E2 (PGE2), which is an inflammatory mediator associated with many of the effects and symptoms of the febrile response, is produced and released. These prostaglandin act over neurons in the preoptic area (POA) through the prostaglandin E receptor 3 (EP3). These EP3 neuron innervate the dorso-medial hypothalamus, rostral raphe pallidus nucleus in the medulla oblongata and paraventricular nucleus of the hypothalamus. When these areas stimulated it leads to stimulation of sympathetic system which produce the increase body heat and vasoconstriction of skin [6].

Management of *Jwara* (Fever)- *Jwara* (Fever) in itself is a vast term where *Santapa* is a main clinical feature which we can infer with the increase body temperature.

Agni (Digestive fire) which moves out from *Grahani* should be brought back to its own place, by *Srotomukha Vishodhana* (Clearance of channel of circulation). The main cause of *Sweda Apradurbhava* (Absence of sweating) is *Sroto Sannirodha* (Blockage of channel of circulation) thus here *Srotomukha Vishodhana* (Clearance of channel of circulation) plays a very important role. For fulfilling the aim, *Swedana* (Sudation) works wonderfully [7].

***Swedana* (Sudation):**

Swedana (Sudation) is a procedure which helps in removing of *Stambhana* (Stiffness), *Gaurva* (Heaviness), *Shetavta* (Coldness) and produces *Swedana* (Sweating) [8].

Properties of *Swedana* (Sudation):

Swedana (Sudation) does the *Agnidipti* (Kindle the digestive fire), *Mardava* (Softness), *Bhakta shraddha* (Increase in appetite), *Srotas Nirmalata* (Clean the channel of circulation), reduces the *Nidra* (Sleep), *Tandra* (Drowsiness), *Sandhi Stabhdhata* (Stiffness of joint) [9].

Swedana (Sudation) should be done with the help *Dravya* (Drugs) which possess the quality of *Tikshna* (Sharpness), *Sara* (Liquidity), *Sukshma* (Minuteness), *Ushna* (Hot). *Swedana* (Sudation) due to *Tikshna Guna* (Sharpness), can penetrate and moves deeper to perform *Ama Pachana*, due to its *Sara Guna* (Liquidity), it helps in liquifies the morbid *Dosha*, due to its *Sukshma Guna* (Minuteness) it can reach upto minute *Srotas* (Channel of circulation), due to its *Ushna Guna* (Hotness), it helps in induction of sweat [10].

Role of *Swedana* in *Jwara*: *Swedana* (Sudation) is mentioned for management of *Tarunajwara* (Acute fever). *Swedana* (Sudation) can help by increasing the *Mardava* of *srotas* (Softness of channel of circulation) helps in *Ama pachana* (Digestion) and *Dosha Pachana*. It can also reduce *Srotorodha* (Obstruction in channel of circulation) and body channels get cleared and *Agni* (digestive fire) can return to its site, which in turn decrease the raised temperature of the body [11].

Sweda (Sweating) is the autonomic thermo-effector. Body sweats when external environmental temperature exceeds the body temperature. It helps in dissipation of core body temperature to outside through the skin.

Method of *Swedana*:

Different methods which do not contain direct use of fire are advised for *Swedan* (Sweat), such as, *Guru Pravarna* (Wearing warm blanket), *Ushna Jala sevana* (drinking hot water), *Yavagu Sevana* (Gruel), *Abhyanga* (Massage), *Pariseka* (Pouring hot medicated water), *Avagaha* (Sitting in hot water tub) [1].

According to modern science, management for raised body temperature to normalise, various external methods are being use since old like tepid sponging, removing cloth, and cooling the external environment etc. along with the antipyretic drug.

These physical methods work on conduction, convection or evaporation method. Conduction allows for exchange of heat between cool object and hot body, a continuous cycle of convection occurs when warm air of an object moves away and is replaced by cooler air inside it, Heat is lost when water evaporates from the surface of an object, resulting in the object cooling [12].

Controversy:

Modern sciences advice colds water sponging, light clothing and light bedding for management of fever. These modalities impart coolness to the body and are comparable with *Sheeta Upachara* (cold treatments). According to Ayurveda *Sheetaguna* (cold) is explained to cause *Stambha* (obstruction). It stops mobility and flow of the body substance. It can also aggravate the symptoms like *Alasya* (Laziness), *Gaurava* (Heavyness). Hence it can block movement of *Dosha* and *Agni* towards *Grahani* and can further promote pathogenesis. So, it is the point of discussion that which therapy is best for fever management.

DISCUSSION

Effect of cold treatment: According to a study, children, those who are subjected to cold water sponging had experience uneasiness and felt more discomfort although they exhibit slightly more rapid reductions in temperature, when compare with the only internal medication. Due to cold water sponging, patient experienced shivering and vasoconstriction as a result of which there is further increased in core body temperature because of increase heat production in order to maintain the external body temperature, along with this shivering also increased the oxygen consumption and respiratory minute volume, increases the percentage of carbon dioxide in expired air during exposure to cold, and increases the respiratory quotient, hypermetabolism, sympathetic activation, possibly pneumonia, pressure sores, and other complications that arise when sedating and paralyzing drugs are used for the suppression of shivering. Further it has been observed that use of warm air was most effective in cooling the temperature as compared with the cool water, cold air and cold-water bath. Here water bath caused continuous shivering and marked discomfort and less-severe shivering was noticed among patient treated with the water mattress and among those treated with atomized water and cool air [2].

Effect of Sudation: According to modern, reason for reduction in body temperature during hot therapy is, when the external temperature increase, reduction in central venous pressure (CVP) occurs immediately after the heating. This reduction is presumed to be the cause of increased cardiac output and also a redistribution of blood from central to peripheral circulation. This helps in reduction of core body temperature and increase peripheral blood circulation as a result sweating occur, there by reduction in body temperature [13].

Ama (Unripened or Undigested material) is the prime factor, responsible for manifestation of pathogenesis of disease. It is capable for triggering the pathogenesis. In initial stage of *Jwara* (Fever), *Ama* (Unripened or Undigested material) is present, as the *Agni* (Digestive fire) of the patient diminished. Therefore, in order to take out the *dosha* from the body, it is very necessary to metabolize the *Ama* (Unripened or Undigested material)) first, from the body, their after other measures can be taken. For *Ama Pachna* (Digestion of unripened material), *Langhna* (Fasting)-*Swedana* (Sudation) is the superior therapy. As the *Agni* (Digestive fire) is very weak in *Amashya* (Stomach) due to various causative factor, whatever food material consumed by the patient remained as it is, therefore various method is mentioned in Ayurved Samhita for *Ama pachana* (Digestion of unripened or undigested material). *Langhna* (Fasting) is one among them. There are 10 types of *Langhna* (Fasting) mentioned in Samhitas, among them *Upvasa* (Fasting) which is also mention in *Niragni* (Sudation without fire) type of *Sweda* (Sudation) is the best we can take here along with *Guru Pravarna* (Wearing warm blanket). *Langhna* (Fasting) in form of *Upvasa* (Fasting) is advise so that whatever the *Agni* (Digestive fire) remained inside the *Kostha* (Stomach) can digest the food and there should not be further formation of *Ama* (Unripened food). Along with this *Guru Pravarna* (Wearing warm blanket) should be done, so that *Prakupita Dosha* (Aggravated) can comes out from the body with the help of *Sweda* (Sweat), as a result of which *SrotoSannirodha* (Obstruction in channel of circulation) gets cleared [14].

It is believed that in Ayurved, *Swedana* (Sudation) is the treatment mention in the context of *Jwara* (fever), but it is not so. Both the *Ushna Chikitsa* (Hot therapy) and *Sheeta Chikitsa* (Cold therapy) are explained in the *Jwara Chikitsa*. For implanting both the treatment, the requisition for Cold is hot therapy is different. It is best to observe the symptoms before advising any kind of therapy.

According to Ayurved, *Charaka Samhita*, *Sheetachikitsa* (Cold therapy) is advice for patient who is suffering with *Jwara* (Fever) associated with *Daha* (Burning sensation) [15]. *Sheeta Chikitsa* (Cold

therapy) can also be advisable for patient, who are very weak, obese, *Timir Roga* (Eye disease), *Udara Roga* (Ascites), Prolaps rectum, Skin disease, Anemia, Jaundice, Diabetic patient, use milk, curd, honey, less *Ojas* (Immunity), *Bala* (Strength), children, old age, pregnant female. Because their dhatu is in *Ksheena Avastha* also due to *Alpa Satva* [16]. For *Sheeta chikitsa* (Cold therapy), house should be cooled with *Chandana jala* (Sandalwood water), or patient should reside in *Dharagrha* (House cooled by running water), patient should wear jewellery made of gold, pearl etc, he should take bath in rivers, ponds having lotus plant and lakes having clean water. This will Helps in mitigate the *Daha* (Burning sensation), *Trishna* (Thirst), *Glāni* (Loss of enthusiasm) and *Jwara* (Fever). Diet and drinks which are cool in nature, cold wind and cold rays of the moon, helps in reduction of *Jwara* (Fever) with *Daha* (Burning sensation) [15]. This in turn depict that Ayurved also accept the *Sheetachikitsa* (Cold regime) as followed by modern treatment for *Jwara* (Fever), like cold sponging, tepid bath etc therapy.

For patient, who is suffering from *Jwara* (Fever) having *Sheetaguna* (Cold) in predominance, should give *Swedanachikitsa* (Sudation) etc with *Ushnaviryā* (Hot potency medicine) drug mentioned in *Jwarachikitsa* (Fever treatment). For this, Patient should lie on bed after covering himself with cloth in room devoid of air. For fumigation of room, one can use *Aguru* (*Aquilaria agallocha*). Drugs which are helps in mitigation of *Vata-Kapha* can also be used. All thirteen types of *Sagni Sweda* (Sudation with help of fire) along with *Niragni Swedan* (Sudation without help of fire) can be used [17].

Now we can adopt any method among the *Sheetaupachar* (Cold therapy) and *Ushnaupachara* (Hot therapy), but it is on the physician *Yukti* (Intellectual power) to assess the *Dosha* in the body, based on which therapy should be advise. Ayurved analyze patient condition i.e., *Prakruti* of patient, *Dosha avastha* of patient. If *Vata* is associated *Kapha*, *Ushna Upachar* (Hot Therapy) like *Swedana* (Sudation) should advice and if *Vata* is associated *Pitta* than *Sheeta Upachar* (Cold therapy) should be given. If we fail to analyze the patient condition it may lead to complication like shivering etc. which in turn increase the core body temperature with cold sponging and also with hot therapy like *Swedana* (Sudation), it may further increase the body temperature.

CONCLUSION:

It has been seen that after getting fever, patient those who are subjected to cold therapy got lots of discomfort and sometime complication may observe. Similarly, with *Swedana* (Sudation) therapy there may be chance of getting any sign of discomfort, so a proper study should be conduct where both the therapy should be properly analyzed according to the nature of fever.

REFERENCES

1. Charles A. Dinarello, Jeffrey A. Gelfand, Fever and Hyperthermia, Harrison's Manual of Medicine, 20th Edition, P-127
2. Peter Axelrod, External Cooling in the Management of Fever, *Clinical Infectious Diseases*, Volume 31, Issue Supplement_5, October 2000, Pages S224-S229
3. Dr. Brahmanand Tripathi, Charaka Samhita Chikitsa Sthana 3, Shloka no-25, Page-114
4. Dr. Brahmanand Tripathi, Charaka Samhita Chikitsa Sthana 3, Shloka no-174, Page-178
5. Dr. Brahmanand Tripathi, Charaka Samhita Chikitsa Sthana 3, Shloka no-129-132, Page-159
6. Swetha Balli; Shweta Sharan, Physiology, Fever, National Center for Biotechnology Information August 28, 2021.
7. Dr. Brahmanand Tripathi, Charaka Samhita Sutra Sthana 3, Shloka no-142, Page-165
8. Dr. Brahmanand Tripathi, Charaka Samhita Sutra Sthana 22, Shloka no-11, Page-114
9. Yadavji Trikam Acharya, Sushruta Samhita Chikitsa Sthana 32, Shloka no-22, Page-512, with Nibandhasangraha commentary of Dalhana, Choukambha Surbharati Prakashana, reprint edition 2014.
10. Dr. Brahmanand Tripathi, Charaka Samhita Sutra Sthana 17, Shloka no-18, Page-21
11. Meremikwu, M. M., & Oyo-Ita, A. (2003). Physical methods versus drug placebo or no treatment for managing fever in children. *Cochrane Database of Systematic Reviews*, (2).
12. Cologne, Germany: Institute for Quality and Efficiency in Health Care (IQWiG); 2006-. Fever in children: How can you reduce a child's fever? 2009 Jul 30 [Updated 2019 Jun 6].
13. Chavan, A. B., (2017). A Concept of Ama in Ayurvedic System Of Medicine-An Overview. *International Journal Of Ayurvedic and Pharma Research*, 5(1), 54-57
14. Dr. Brahmanand Tripathi, Charaka Samhita Chikitsa Sthana 3, Shloka no-260, Page-197
15. Dr. Brahmanand Tripathi, Charaka Samhita Chikitsa Sthana 17, Shloka no-21-24, Page-216
16. Dr. Brahmanand Tripathi, Charaka Samhita Chikitsa Sthana 3, Shloka no-268-269, page-202

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