Concept of *dagdhavrana* in Ayurveda: A Review

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Abstract
Burn injury is coagulation necrosis of tissue due to contact with fire, flame and hot substances. It has been faced by human in different era. It is common cause of morbidity and mortality and it affects person irrespective age and sex. The basic concept and principles of treatment of burn injury is described in Ayurveda text in a detailed manner under the heading of *Agnidagdha*. In the present study a review is presented on pathogenesis, classification, clinical features and effective management of *Agnidagdha* with special reference to burn injury.

**Keywords:** Agnidagdha, Burn injury, Plustagdha, Durdagdha, Agnikarma

Introduction
Burn injury is common cause of morbidity and mortality and it affects person irrespective age and sex. It is coagulation necrosis of tissue due to contact with fire, flame and hot substances. Burn injury has been there since ancient time though mode of burn injuries has also been changing. In Ayurveda, burn injuries has described under the heading of *Dagdhavrana*. Acharya Sushruta has explained that *Dagdhavrana* (burn injury) can be seen by the proper Agnikarma on particular site according to the disease, but features of *Dagdhavrana* can also be seen in the accidental burn injuries where it needs proper treatment. In *Rigveda*, we get only references regarding Agnidagdha Vrana and its treatment with the help of Ghrita. In *Atharva Veda* explanation regarding wound and its management is found in
Kaushika Sutra (26/38). Acharya Sushruta explained Dagdhavrana in detailed in Agnikarma Vidhi Adhyaya about its Nidana, lakshana, Samprapti, Bheda and Chikitsa with its complications.

Classification
In Sushruta Samhita, four types of Dagdhavranahas been described viz. Plusta, Durdagdha, Samyakdagdha and Atidadgda.

1. Plustadagdha: discoloration, burning pain without any blisters
2. Durdagdha: blisters, redness, suppuration and severe pain lasting for long duration.
3. Samyakdagdha: it is well controlled burn characterized by ripe palm tree fruit discoloration of skin.
4. Atidadgda: sloughing out, injuries of vessels, ligaments, joints and bones, fever, burning sensation, thirst, fainting and the wound heals very slowly.

The symptoms of the other kinds of burn (Dagdha) other than Samyakdagdha (appropriate burn). The fire cause burning taking shelter in the substances having the attributes like Snigdha and Ruksa. The oleaginous substances when are heated and applied with the ability of permeating into the minutest vessels (carrying deoxygenated blood) bring the effect of burning. Incidental wound caused because of such a burning (scald) characterized by severe pain.

The word “Itaratha Dagdham” indicates the other kinds of burn other than Samyak Dagdha (appropriate burning) caused by the mistake. The word Snigdham indicates substances like ghee which are oleaginous in nature and similarly Ruksa indicates substance like Kasth (wood), Pasana (stone) and Lostha (mud which is hardened).

Acharya Vagabhata explained that the sign of inadequate burning and excess burning are similar to those of improper burning. It improper burning is of kinds, together with TucchaDagdha (bad / mean/ undesirable/ inadequate burning). The sign of TucchaDagdha are discoloration of the skin, severe burning sensation and no emergence of boils. Signs of Durdagdha (improper burning) are appearance of boils severe burning sensation and sign of Atidadgda (over burning) are dropping down of the muscles, constriction, burning sensation feeling of hot fumes coming out, pain, destruction of veins etc. thirst, fainting, exacerbation of the wound and death.

Modern classification of burn

1. First degree: involves only the epidermis and never blisters. It appears as a sunburn.
2. Second degree superficial: pink, homogeneous, normal capillary refill, painful, moist intact hair follicle.
3. Second degree deep: mottled or white, delayed or absent capillary refill, dry, decreased sensation or insensate, non-intact hair follicle.
4. Third degree: dry, white or charred, leathery, insensate.

**Samprapti of Agnidagdha**

To manage the other varieties of burn it needs to understand its pathology in terms of the Dhosha and Dusya. Hot fire causes the provocation of Pitta and aggravation of Rakta. Both have similarity in terms of Virya i.e potency, Rasawhich is Katu and by the nature of the substance i.e Dravya and their constituents. Because of this reason the Pitta and Rakta get vitiated that causes severe pain and produced symptoms like Sphota (blister), Jvara etc. The effects of Pitta (burning sensation) are naturally aggravated and augmented through a contact with fire. Blisters or vesicles occur rapidly and fever and thirst increases.

**Treatment of Burn (Dagdhavrancikitsa)**

Understanding of these four varieties of burn helps the surgeon in accomplishing his aim i.e. success in the treatment.

1. **Plustadagdha**- hot and dry fomentations as well as warm plasters should be applied to a burn of the Plustamtype. A course of hot food and drink should be taken. The Raktabecome thin when the body is fomented by means of warm fomentations and water in virtue of its natural cooling properties, tends to thicken the Rakta. Warm fomentations or applications exercise curative virtues in the case of a burn of the foregoing type, water or cold applications produce the contrary effect. This stage also known as Tucchal Tuthastage.

2. **Durdagdhan**- both warm and cold measures are to be adopted in the case of a burn of the Durdagdh type and the medicinal remedies consisting of application of Ghritacold applications and cold sprinkling.

3. **Samyakdagdha** – plaster composed of Tugaksiri, Plaksa, Candana, Gairika and Amrita (Guduci), pasted together with Ghrita, applied over a burn the SamyakDagdha, flesh of domestic, moist and aquatic animals should be pasted and applied over the affected part. Case of burn continuous
burning, medicinally treated in the same manner as PittaVidradhi. Tugaksiri –Vamsalocana, Plaksa - Parkati, Candana- Rakta Candana, Samruta Guduci drugs have to be processed with Ghrita and made capable of subsiding pitta and applied in the Lepa form. The Mamsa of Gramya like horse etc, Anupa like hog or buffalo, Audaka like tortoise may be used.

4. Atidagdha- the loose or the dangling skin and flesh should be removed and cold measures should be done. Then the affected part should be dusted over with pulverized shali rice or a mixture of Tinduki Kasaya and Ghritashould be applied plants, and all measure indicated in the case of a Pittaja Visarpashould be resorted.

Application of Ghritaprepared from bee’s wax, paste of Madhuka, Sarjarasa, Manjistha, Rakta Candana and Murvais regarded a bet for all type of burns to promote rapid healing.

Discussion

Agnidagdha Vrana caused by the application of heat. First and second degree superficial burn may be considered under Plusta Dagdha. Second degree deep burn may be considered as and Samyaka Dagdha and third degree burn resembles as Atidagdha. In Plusta Dagdha application of cold treatmentcauses Styana in Raktathat leads obstruction of the Vayu. Further it leads burning in site and causing symptoms lay pain, swelling etc. So cold treatment is not preferred instead Usna Kriya like Svedana. Ushna Kriya brings Vilayana of Raktathere by helps in the expulsion of the heat and easy movement of Vata which brings comfort to the patient. Acharya Vagabata also stated that in this stage, treatment is subjecting to heat and other heat producing measures only, when the blood is solidified, the bodily heat does not come out by cold producing measures, when it is in side, pain is increased and blood is heated up. Hence first heat should be eliminated and then treatment is undertaken to reduce the pain. In Durdagdha (badly burnt or inadequate burn) the treatment is both hot and cold simultaneously and then smearing of ghee and fomentations, which are cold to be undertaken. In case of burning by fats (hot oil, ghee etc.) measures which are very dry (cause severe dryness) should be adopted.
Conclusion

Ayurveda classics mention a lot of preparations for burn wound care. These remedies has been used in ancient time most probably with success. So there is a need of revalidation of these preparation in term of modern parameters.

Reference

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