



Review Article

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UTILITY OF APAMARGAKSHARA IN NON-HEALING CHRONIC ULCER: A REVIEW

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Received on: 29/12/14 Revised on: 05/02/15 Accepted on: 12/03/15

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DOI: 10.7897/2277-4343.06237

ABSTRACT

The disease that cannot be cured by any other medicine or in subjects where surgery is not possible this para-surgical procedure of Kshara-karma is effective. Acharya Sushruta and Vagbhata have dedicated one complete chapter in Sutrasthana for Kshara preparation and Kshara-karma. Apamarga kshara is the drug of choice in many diseases and the previous researchers have proved antimicrobial activity of Apamarga kshara in various studies. In 'Shashti Upakrama' (sixty measures of wound treatment) advocated by Sushruta for comprehensive management of 'Vrana' (wound), one of the 'Upakrama' (procedure) is Ksharakarma mentioned for Shodhana (purification). The present article is devoted to establish the concept and principle of action of Apamarga Kshara, when used externally, especially in non healing chronic ulcer. This article reviews the concept of Kshara as per Ayurveda, preparation of Apamarga Kshara and its source plant and discussion on its mode of action about utility of Apamarga Kshara in non healing chronic ulcer.

Keywords: Apamargakshara, non-healing ulcers, chronic ulcers, Vrana, *Achyranthes aspera* Linn.

INTRODUCTION

In Ayurvedic ancient literature, Sushruta and other authors discussed the wound in a clear and systematic manner under the heading of Vrana. There is a detailed description of concept of wound is available with their classification, sign and symptoms, complications and the management. Ancient scholars have classified the Vrana as Nija and Agantuja. In Nija variety they have included all those causes where the systemic involvement of the body found, where as in Agantuja variety, they have explained about Vrana caused by the external factors mainly by trauma. Acharyas also explained that in due course of time Agantuja Vrana turn to Nija variety. Beside these two gross divisions of Vrana, there is another variety of Vrana which takes special attention which is Dusta Vrana (chronic non healing wound)¹. Out of all the Yantras, Upayantras, Shastras, Anushastras (ancient surgical instruments) and Oushadhas (medicines) the Kshara is the supreme, because it is most effective and acts immediately. Generally all the Ksharas act as Chedana (cutting), Bhedana (penetrating) and Lekhana (scrapping) Dravyas (substances). Ksharas are best useful as the substitute of surgical instruments, because they can be used freely on the patients who are Shastrabheerus (those who are afraid of operative procedures). Lastly Kshara is Tridosha Hara (corrects the vitiation of the three basic bodily humours), hence, as a single drug, it acts on all the three Doshas, i.e. Vata, Pitta, Kapha.² Acharya Sushruta defined the Kshara as the substance possessing

Ksharana (localized cleansing properties) and Kshanan (debridement) properties.³ Explanation of these two words by Dalhana is as under, 'Ksharan' means the one which mobilizes and removes the morbid skin, flesh etc. or which removes the vitiated Doshas. Dalhana mentioned that a few authorities considered the reference as Ksharan means purification.⁴ 'Kshanan' means which destruct the deformed skin flesh etc. Kshara is alkaline substance obtained from the water soluble ash of the medicinal plants. Every Kshara is made by treating with a definite alkali known as Kshar Kalpana Dravyas like limestone, silica, marble, chalk powder, Shankh Shukti (conch shell)⁵. In comprehensive management plan of 'Vrana' (wound) known as 'Shashti Upakrama' (the sixty measures of treatment of wounds), Sushruta has advocated the 'Ksharakarma Upakrama' for purification (Shodhana) of long standing ulcer which have raised granulation tissue, are hard, itching, chronic and difficult in cleansing should be cleansed by applying caustic alkali.⁶ The main aim of Vrana Shodhana is to remove the dead tissue, keeping the wound bed free from unwanted and harmful material, thus minimising the reactionary inflammation. Apamarga Kshara is the drug of choice having various therapeutic uses in Ayurvedic practices. It is prescribed mainly for the treatment of Gulma (Abdominal lump), Udara-shula (Pain in the abdomen), Grahani (Mal absorption syndrome) and Visuchika (Gastro-enteritis with piercing pain) etc⁷. Recent study by Ghosh PK *et al* shows that, *Achyranthes aspera* Linn. leaf extract (aqueous and ethanolic) on topical application

enhanced wound contraction and healing and was as effective as soframycin (standard cream for comparison). The treatment group exhibit significantly smaller wounds when compared with control ($P < 0.001$ each group)⁸. The aqueous extract of leaf of *Achyranthes aspera* Linn was found to be more effective for its wound healing activity as compared to ethanolic extract.⁹ Almost all the plants can produce Kshara which are pharmacologically similar to Apamarga Kshara.¹⁰ A case study by Pratik Wani *et al* also supports the wound healing properties of locally applied kshara in excised secondary sinus.¹¹ The Sanskrit word Apamarga (*Achyranthes aspera*) literally means that which keeps away the Doshas.

Latin name: *Achyranthes aspera* Linn.

Family: Amaranthaceae.

Parts used: Panchanga (The leaves, roots, seeds, stem, fruits i.e. the whole plant).

Ayurvedic Properties

Rasa: Katu (pungent) and Tikta (bitter)

Guna: Laghu (light), Ruksha (dry) and Tikshna (sharp) attributes.

Vipaka: Katu (pungent) in the post digestive.

Virya: Ushna (hot) potency¹²⁻¹⁶

Effect on Doshas: It is Kaphavatshamak and Kaphapittasanshodhak.

Aabhyantara Karma (systemic actions): It is diuretic, astringent and blood purifier. It is useful in the diseases, like obesity, haemorrhoids, vomiting, abdominal pain, pruritus (kandughna) and diseases due to Ama.

Bahya Karma (local actions): Shothahara (anti inflammatory), Vedanasthapana (analgesics), Lekhana (scrapping), Twagdosahara (reduces skin pathology), Vranashodhana (cleansing of wound).

Method of preparation of Apamarga Kshara

The whole plant including its root, stems, leaves, seeds and fruits are collected in the beginning of summer and allowed to dry in shade. After drying the whole plant is burnt in a semi-closed space and ashes are collected. Ashes are allowed to cool down and dissolved in six times of clean tap water and thoroughly mixed and allowed to settle down. It is filtered without the settled down material and then heated. Kshara is stuck at the bottom of vessel. It is kept in glass bottle with airtight cork for future use. The Kshara prepared by the above procedure must fulfil the qualities mentioned by the Acharya Sushruta and Vagbhata¹⁸ as, Naati Tikshna (should not be too corrosive), Naati Mridu (should not be too mild), Naati Shlakshna (should not be too smooth), Naati Pichhila (should not be too sticky), Sheeghra grahi (easily applicable), Naati sthira (should not be too stable), Shikhari (effervescent), Avishyanda (should not be

hygroscopic), Sukha Nirvapy (easily neutralise) and Naati ruk (should not be too painful on application).¹⁷

Properties of Kshara

Rasa: Katu (pungent)

Veerya: Ushna (hot)

Guna: Tikshna (sharp), Ushna (hot), Shlakshna (smooth)

Varna: Krishna (blackish colour)

Doshaghata: Tridoshaghna

Bahya Karma (Topical action)

Tridoshaghna (equilibrium of three vitiated doshas), Saumyata (Mild-Slow acting), Dahana (Burning), Pachana (Suppuration), Darana (Tearing), Vilayana (liquefaction and dissolving), Shodhana (Cleansing), Ropana (Healing), Shoshana (Drying and absorption), Stambhana (Astringent/ contraction action) and Lekhana (Scaling)¹⁹.

Probable mode of action of Kshara in non-healing ulcer

Kshara is Tridoshaghna as it helps in equilibrium of localized vitiated Tridoshas hence facilitates quick healing. Saumyata is one of the characteristic of Kshara which actually looks like contradicting as the basic nature Kshara is Teekshna but here Saumyata attributes that Kshara acts only on the deranged, unhealthy growth and hypertrophied tissues. Dahana again is the apparently antagonist properties, Saumyata and Dahana of Ksharas are complimentary to each other. The Kshara in particular is moulded during its preparation to have both these qualities in a therapeutically useful chemical structure. Ksharas acts externally through their dual action i.e. Pachana and Darana properties. Pachana in an inflammation implies hastening of inflammatory process which is nothing but encouraging the body forces (Antibodies) to fight against pathogens (antigens) later Darana helps in opening or rupture of the abscess. These properties help in resolving the swelling or convert them into abscesses for further (Shodhana) debridement. Kshara by its Shodhana property helps in elimination or expulsion of unwanted and harmful substances from the wound. Ksharas because of their Ushna and Tikshna gunas helps in desquamation of sloughs (debridement) and draining of pus. After attaining this debridement of unhealthy tissues Kshara helps in Ropana or healing of Vrana (wound) due to its antiseptic property which has been reported by the researchers in various studies. Healing requires new vascularisation, granulation tissue formation and lastly in pouring of proteins and fibrocytes for formation of healthy tissue which is taken care by Ropana property of Kshara. Healing in ulcer is delayed because of moisture, as moisture facilitates breeding and growth of micro organism. Shoshana property of Kshara helps in drying up and absorption of mucous discharge that gets collected in ulcer bed promoting the granulation. Kshara being in the form of ash acts as an absorbent (hygroscopic), so that ulcer becomes relatively aseptic and healing is hastened. Stambhan property helps in

contraction or coming together of the opposing edges of an ulcer to promote active healing. Vilayana property helps in liquification and dissolving of localised unhealthy tissues. Lekhana The fibrosed tissue in the edges of chronic ulcer hampers the healing process. The Tikshna Guna of Kshara scraps the site of fibrosis. Thus when fibrosis is sloughed out the process of healing becomes faster.

CONCLUSION

Kshara is basically Shodhana (purification) in nature which helps in elimination or expulsion of unwanted and harmful substances from the chronic non-healing wound by desquamation of sloughs (debridement) and draining of pus. Debridement removes devitalized tissue, which can be a source of endotoxins that inhibit fibroblast and keratinocyte migration into the wound and promotes the process of healing.

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Cite this article as:

Pradnya J. Bhagat, Savita Sharma, Subhash Y. Raut, Sunita Khatri. Utility of apamargakshara in non-healing chronic ulcer: A review. Int. J. Res. Ayurveda Pharm. 2015;6(2):185-187 <http://dx.doi.org/10.7897/2277-4343.06237>

Source of support: Nil, Conflict of interest: None Declared