



RELATION OF TIKTA RASA WITH PHYSIOLOGY OF WOUND HEALING :A REVIEW

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ABSTRACT

Wound healing is the complex biological processes in the human body. It involves the the phases of haemostasis, inflammation, growth, re-epithelialization, and remodelling. Wound is a common and often encountered problem faced in present era. The worsen condition of wound in patient with different complications and may become fatal. In regular clinical practice, wounds remain a challenging clinical problem. In this script an attempt to reduce the wound burden, and focus on understanding the physiology of wound healing and wound care with new therapeutic approaches are made. Tikta rasa occupies a great importance in therapy because of multidimensional activities like vishghana, jwaraghana, kusthaghana vranaprashamana etc.

KEYWORDS: Tikta rasa, vishghana, jwaraghana, kusthaghana vranaprashamana haemostasis, inflammation, growth, re-epithelialization, remodelling.

INTRODUCTION

A wound is defined as damage or disruption to the normal anatomical structure and function. This can be a simple break in the epithelium of the skin or deeper into subcutaneous tissue damage including structures such as muscles, tendons, blood vessels, nerves, organs and even bone^[1]. wound is defined as

the damage to the tissue, including skin, mucous membranes, and organ^[2]. Basically there are two types of wounds i.e open and closed wounds. In closed wound The surface of the skin is no harmed, but the underlying tissues may be damaged. e.g. haematomas, or contusions. In Open Wound the skin is splited and the underlying tissues are exposed. Wound can be classified according to the cleanliness and condition.

Class 1 wounds	Class 2 wounds	Class 3 wounds.
<ul style="list-style-type: none"> Class 1 wounds are considered to be clean, disinfected, The inflammation is present, primarily closed These wounds do not enter respiratory, Alimentary, genital, or urinary tracts 	<ul style="list-style-type: none"> Class2 wounds enter the respiratory, alimentary, genital, or urinary tracts and will be under control conditions 	<ul style="list-style-type: none"> Class3 wounds are considered to be contaminated, These wounds are fresh, open wounds caused by unhygienic conditions.^[3]

Wound healing refers to a replacement of destroyed or damaged tissue by newly produced tissue. It consists of 4 phases hemostasis phase, inflammatory phase, proliferative phase, maturation phase. hemostasis has 5-15 min of time duration it consists vasoconstrictions, platelet degranulation, initiation of clotting, fibrin formation, release of vasoactive mediators. The inflammatory phase has time duration of 24-48 hours and can be up to 2 weeks, in this phase the macrophages get in to the action neutrophils cleans and remove debris and foreign particles macrophages perform phagocytosis and release cytokines. Proliferative phase has time duration of 3-4 days after injury and can be up to 21 days this phase consists of re epithelialization, granulation, angiogenesis and fibroplasia. maturation phase last for few days or may take up to 2years depend on different individual, the formation of collagen and

extracellular matrix organization, wound concentration and scar maturation^[4].

VRANA AND ITS TYPES

Vrana is of two types according to their origin and etiology^[5]. Nijavrana and Aganthuja vrana Nijavrana is formed by doshas while aganthuja vrana are by external factors like lacerations, cuts, bruises etc.^[6]. On the basis of dosha dushti, vrana is classified into Dushta vrana and Shudhavrana. Vrana which is involved with more dosha dushti is called as Dushta vrana and the vrana which has the minimal involvement of doshas are called as Shudhavrana^[7].Vrana can be classified as the SadhyoVrana the wounds which is caused by external injury like accidents, surgical wounds etc. These sadyovrana can also be called as aganthujavrana or sudhavrana^[8]. There are 15 types



of nijavrana according to Acharya Sushruta and Vagbhata. Acharya sushruta consider 16 types of nijavranas by adding shudha vrana to it [9]. Acharya sushruta explained Sadyo Vrana into 6 types Chinnam (excised), Bhinnam (penetrating), Viddha (punctured), Kshatha (incised), Picchitha (lacerated), Ghrishtha (abraded) [10]. Charaka has described another classification of vrana depending on their characters. They are 20 in number. [11]

WOUND HEALING IN AYURVEDA

Shuddha vrana present itself as a localised swelling with brownish discoloration associated with three dosha, without

pain and discharge. It is an indication of clean or pure wound and suggest a state favourable for healing. Ruhyamana vrana resembles the color of pigeon free from kelda (dry wound implying no active discharges), the surface is smooth and stable indicating healing process is progressing without inflammation. Rudha vrana refers to firmly settled stable state in healing process. The wound has noticeable elevation indicating tissue regeneration, it is pain less resembles the skin colour with flat or smooth surface showing good tissue integrity and healing process [12].

PATHYA APATHYA

Classics	Pathya	Apathya
Acharya Charaka (Chi.25/97-98) [13]	Na Ati Sheeta, Na Ati Guru, Na Ati Snigdha, Avidahi	Lavan, Amla, Katu, Ushna, Vidahi, Guru, Viruddhanna, Adhyashana
Acharya Sushruta (Sutra.19/33 - 36) [14]	Patola, Karvellaka, Dadima, Amlaki, Saindhava, Mudaga Rasa etc	Navadhanya, Masha, Tila, Kalaya, Kulatta, Haritaka, Amla, Lavana, Katu Rasa Pradhana Dravyas, etc.
Acharya Vagbhata (Sutra.29/34-40) [15]	Yava, Godhuma, Sashatika, Masura, Mudaga, Karvellak, Karkota, Patola, Saindhava, Dadima, Dhatri, Ghrita, Jala, Jangala Mamsa Rasa.	Nava Dhanya, Tila, Masha, Mamsa, Ksheera, Ikshu-Vikrati, Amla, Katu, Visthambi, Vidahi, Guru, Sheetal, Madhya.
Yoga ratnakar (SarvaVrana RogPathyaApathya)	Godhuma, Shali, Yusha, Vilepi, Laj-Manda, Jangala Mriga-Pakshi, Ghrita, Taila, Patola, Karvellaka, Tanduliyaka.	Ruksha, Amla, Sheeta, Lavana, Vyavaya, Aayasa, Ucche-Paribhasana, Nidra, Prajagaram, Shoka, Viruddhashana, Ambu Pana, Tambula, Patra- Shaka

Considering the pathya apathya from classics *Tikta rasa* occupies a great importance in therapy due to its multidimensional activities like *vishghana*, *jwaraghana*, *kusthaghana vranaprashamana* etc.

Tikta rasa is said to be 'TEJYATITI TIKTAM' i.e. which spreads all over the tongue within no time. By this, it can be inferred that the action of *tikta rasa* is very fast [16]

CHARACTERISTICS OF TIKTA RASA [17-20].

SYMPTOMS IN ORAL CAVITY AND THROAT	PSYCHOLOGICAL SYMPTOMS	SYMPTOMS ON OTHER PARTS OF BODY
<ul style="list-style-type: none"> • <i>Rasanam Pratihanti</i> reduces the Perception of Other Tastes • <i>Mukh Vaishadya & Vishodhyati Kantham</i> Cleansing action • <i>Asyasya Shaityam</i> Coolness in the oral cavity • Dryness In Throat 	<ul style="list-style-type: none"> • Removes Tastelessness • Promotes Desires for Food 	<ul style="list-style-type: none"> • Blanches Face • helps in hair growth

All the rasas are made up of *panchamahabhuta* However, their specific expression as *madhura*, *amla* etc. is due to specific and proportionate configuration of *panchmahabhutas*. *Tikta rasa* has predominance of *vayu* and *akash mahabhuta*. Due to *akash mahabhuta* it has *vishada* (cleansing) property and due to the *vayu mahabhuta* it is *ruksha* thus *upsoshak* (absorbing) in nature. *Vayu* and *akasha* both are *laghu*, hence *tikta rasa* is also *laghu* [21].

Tikta is bitter. Though it is disliked by many it has many therapeutic properties. Properties such as *laghu*, *ruksha* and *sheeta* is present in *tikta rasa*. It is having anti-bacterial, anti-inflammatory and anti-pyretic effects. It pacifies anorexia by stimulating the digestive secretions and enzymes. It helps in relieving nausea, burning sensation and skin diseases [22]. Sesquiterpenes, Anthraquinones, Alkaloid and some Glycosides are having *tikta rasa*. Leafy vegetables, Coffee, Turmeric, Cumin plants like *Neem*, *Kutki*, *Guduchi* are bitter in taste. *Tikta Rasa* decrease *Kapha* and *Pitta*, it increases *Vata*



because of the *Guna's* like *Rooksha*, *Sheeta*, *Laghu*. *Panchamahabhuta* composition *Tika Rasa* consists of *Vayu* and *Akasha Mahabhuta*. *Tikta Rasa* pacifies *Kapha* dosha as it is *laghu*, opposite to *Guna* of *Kapha Dosha* [23]. *Tikta Rasa* does *Pachana*, *Kaphahara*, *Vrunaghna*, *Puyaghna*, *Medahara* respectively. Excess taking of *tikta rasa* ahara leads to dry mouth, dizziness and nausea. It does the wasting tissues which lead to debility and causes *Vata* disorders.

DISSCUSSION

Wound healing is a natural process in which itself after injury. This process is having some important phases as follows, clotting phase (hemostasis), inflammatory phase, growth phase (proliferation), and remodeling phase (maturation). Platelets migrating & sticking to the site of injury & its proliferation *Vata Dosha* function Proper placement of tissues, responsible for touch (injured site & platelet), proper division respectively. Release of chemicals & activation of fibrin transformative function of *Pitta Dosha*. Formation of platelet plug & clot for stopping the blood flow or hemostasis stability related function of *Kapha Dosha*. *Tika Rasa* consists of *Vayu* and *Akasha Mahabhuta*. *Tikta Rasa* pacifies *Kapha* dosha because it is opposite to heaviness which is considered to be helpful in process of wound healing. *tikta rasa* helps in removal of tissue debris & pathogens because of its *rooksha*, *sheeta*, *laghu guna*.

CONCLUSION

Tikta rasa having numerous therapeutic properties. As it is having *laghu*, *ruksha* and *sheeta* properties which is opposite to the quality of *kapha* which does the Removal of tissue debris & pathogens because of these *gunas*. It has anti-bacterial and anti-inflammatory properties which is helpful in healing the wound, in view of no any adverse effects and affordable economically by all, *tikta rasa* it can be recommend in *patya ahara* which is helpful in healing wound.

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