

Shashti Upakrama in the Management of Geriatric Wound Care

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ABSTRACT

The care of the aged people is called Geriatrics. Today most people can expect to live into their sixties and beyond. Between 2015 and 2050, the proportion of the world's population above sixty years will nearly double from 12% to 22%. By 2030, one in six people in the world will be aged sixty years and above according to WHO report. In elderly people, skin integrity is compromised, incidence of systemic disorders such as Diabetes Mellitus, Hypertension and Peripheral vascular diseases increases. Accidental wounds and fractures are more common in the elderly due to fragile bone caused by decalcification and impaired locomotory system. Old age is one of the risk factor for many varieties of malignancy which may lead to carcinomatous and melanocytic ulcers. Acute wounds like laceration, skin tears, chronic wounds like diabetic ulcer and mechanical stress ulcers are likely to occur in the elderly. *Shalya tantra*, a branch of Ayurveda deals with surgery, is a great boon to the world to eliminate the diseases through a unique set of principles and procedures using various instruments which are adequately used. *Shashti upakrama* is a treatment modalities explained in *Susrutha Samhitha* for the management of *vrana* (wound or ulcer). Various clinical trials documented *raktamokshana* as preventive procedure in diseases diseases such as varicose veins and DVT. Wound manifest as a secondary complication can be treated with modalities prescribed in *shashtiupakrama* according to *doshic* involvement (*brimhana therapy* and *basti karma* in case of *vataja varna*) and stages of wound healing. Traumatic wounds can be managed with *bandana*, *seevana*, and *pariseka*, etc. as per the requirement. The wound that occurs inside the mouth and above the clavicle level can be treated with *kavalagraha*, and *Nasya karma* etc. Treatment principles remain the same for all age groups. *Ushna*, *tikshna*, profuse bloodletting tedious procedure should be avoided. *Balya* (strength promoting), *snigdha*(unctuous), *ojovardhaka* (immunity booster), meticulous procedure are attributable to increase the health status of elderly patients.

KEYWORDS: Geriatrics, Diabetic ulcer, Venous ulcer, Shashtiupakrama, Acute wounds

INTRODUCTION

Geriatrics is a branch of medicine that focuses on the health care of the elderly population. The age of elders is very difficult to define precisely. Usually people with sixty and above years of age are grouped under the category of elderly. But some old people do not need medical attention till seventy or eighty years of age. According to the law, a senior citizen means

any person who has attained the age of sixty years or above. Between 2015 and 2050, the proportion of the world's population above sixty years will nearly double from 12% to 22%¹. About 53million females and 51 million males were elderly (aged sixty years and above), the proportion has increased from 5.6% to 8.6% from the last five decades. 71% and 29% of

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the elderly population resides in rural and urban areas respectively according to population census 2011 of India². The integrity of the skin is compromised in the elderly, onset of systemic disorders like Diabetes Mellitus, Hypertension and Peripheral Vascular Diseases such as Venous Hypertension and Arterial insufficiency manifest wounds as a secondary complication. Accidental wounds and fractures are more common in the elderly due to fragile bone caused by decalcification and impaired locomotory system. Old age is one of risk factor for all types of malignancy which may lead to carcinomatous and melanocytic ulcers etc. Here an attempt is made to manage the geriatrics wounds with the help of treatment modalities explained under the heading of *Shashtiupakrama*.

Geriatric wounds: The wounds that occur in the elderly population are known as geriatric wounds. They are classified as Acute and chronic wounds. Acute wounds are lacerations, incised wounds, skin tears and accidental wounds. Chronic wounds such as Diabetic Ulcer, Venous ulcers and Mechanical stress ulcers are most commonly occurring in the elderly.

*Shashti upakrama*³ are sixty variety of treatment modalities enlisted in *Sushruta Samhitha*. *Charaka Samhitha* mentioned thirty six *upakramas* for treatment⁴ of wound, All these thirty-six *upakramas* are included in *shashtiupakramas* of *Sushruta Samhitha*.

Acute wounds

Acute wounds are wounds up to eight hours of trauma⁵. Saber Azami et al conducted a systemic review on Road traffic injuries (RTIs) among the elderly in 2016. This review documented RTIs comprised 23.6% of total injuries among the elderly. The most frequent injuries were car accidents (51.4%). Pedestrian injuries composed 48.1% of the RTIs. Head and neck (32.1%) were the most injured body parts⁶. Acute wounds can be considered as *sadhyovranas* in *Ayurveda*. A separate chapter is dedicated to *shadhyovrana chikitsa* in *Sushruta samhitha chikitsasthana*⁷. The basic principle in the management of acute wound is to advice *Kashaya*, *madhura*, *sheeta* and *snighdha dravyas* for the first seven days. Then the *doshaja chikitsa* should be adopted. The management of Acute Wounds according to the type of wound is depicted in table 1.

Chronic wounds

Diabetic ulcer: The incidence of Diabetes Mellitus peaks at around fifty five years of age. 15% of the diabetic population are aged 50–69 and 22% are aged 70⁸. Diabetes is the leading cause of nontraumatic lower-extremity amputations in the United States,

with approximately 5% of diabetics developing foot ulcers each year and 1% requiring amputation⁹. Elderly Diabetic patients are particularly burdened by foot disease as a result of foot deformities, Peripheral neuropathy, Atherosclerotic changes and Peripheral arterial disease with risk factors such as poor vision, gait abnormalities, impaired locomotor coordination and medical co-morbidities. **It occurs in two forms-** Primary wound may be accidental such as abrasion, laceration etc. in diabetic associated patients, these type of wounds should be managed as described in acute wounds management. The same wound may become non-healing ulcer due to uncontrolled Diabetes mellitus. In other form the wound or ulcer may manifests as a result of Diabetic dermopathy like *Necrobiosis lipoidica diabetorum* which can be treated by therapies depicted in table 2.

Varicose ulcer: The annual prevalence of venous leg ulcers among the elderly was 1.69¹⁰. It occurs around the ankle due to Chronic Venous Hypertension caused by either varicose veins or post phlebitis veins.

Pain, discomfort, pigmentation, dermatitis, lipodermatosclerosis, ulceration and Marjolin's ulcer are clinical symptoms of venous ulcers. *Shashtiupakrama* plays a significant role in the prevention and treatment of varicose ulcers in the early stages of the disease. Periodic *Raktamokshana* plays a significant role in reducing venous hypertension. The treatment for varicose ulcer are enlisted in Table 2

Neuropathic ulcer: It is most commonly seen in the foot with symptoms like no sensation, They are either caused by either anatomical defect (sciatic nerve compression, accidental injury *vataja*), systemic (carcinoma, amyloidosis), metabolic (Diabetic Mellitus, thyroid, renal disease) and toxic causes (heavy metal poisoning, alcohol use). It can be treated as *vataja vrana chikitsa*.

Trophic ulcer: This ulceration occurs when the blood flow reduces to the skin once the external pressure becomes more than 30mmHg¹¹. Approximately 30% of hospitalized elderly patients treated in the hospital develop a pressure sore most commonly over bony prominences. The cause should be treated like peripheral neuritis, paraplegia, and nutritional deficiency etc.

Arterial ulcer-Vascular surgeries and treatment as shown in chart 2

Carcinomatous ulcer- Marjolin's ulcer, Rodent ulcer, and Melanocytic ulcer are malignant ulcers seen in the elderly. The cause and the primary factor should be treated. The local treatment remains the same as shown in chart 2.

Doshaja vrana chikitsa: *Tridoshas* are responsible for the manifestation of any disease either topical or systemic. Hence the therapies in the management of *vrana* according to *doshic* involvement are given in chart 4.

Prevention: The treatment modalities helps in curative aspect and also the preventive aspect. Similarly, the *upakramas* required for the prevention of geriatric wounds among *shashtiupakrama* are depicted in table 4. The regular adoption of these therapies helps to retain health in the elderly.

Discussion: The elderly population has a higher rate of mortality associated with specific morbidities. As these morbidities may develop directly from the wound, early intervention is mandated. Brem et al conducted a study on the healing pattern of chronic ulcers in elderly patients. In this report, 40 consecutive elderly patients (65-102 years old) with chronic wounds were analyzed. All patients were provided the same treatment protocol and healing was defined as 100% epithelization with no drainage as seen in the young population. Therefore, early intervention and comprehensive treatment that includes safe topical therapies with internal medication for chronic wounds ensure the patients will be spared the morbidities of pain, amputation, osteomyelitis, and even death¹².

Shashtiupakrama is a set of 60 therapies explained in *Shalya tantra*, an ancient branch of surgery. Acute wounds and chronic wounds could be successfully managed by *Shashtiupakrama*. The treatment differs on the location of the ulcer, clinical features and condition of patients. The topical and systemic treatment could be chosen according to the location and clinical features of a wound from *shashtiupakrama*. The wound could be treated

according to doshic involvement from *shashtiupakrama*. Some of the therapies explained in *shashtiupakrama* could be adopted regularly for the prevention of wounds in elders which are listed in chart 3.

Age itself is a causative factor for *Vata prakopa* and *ashtikshaya* (Osteoporotic changes) in the geriatric population. Hence *Basti* is a more suitable therapy for the prevention of wound formation by reducing *vata prakopa* and strengthening the bones in the elderly. *Abhaynga* with *sneha* helps to maintain the integrity of the skin thereby decreasing the chances of skin tear. Treatment principles remain the same for all age groups. *Ushna*, *tikshna*, profuse bloodletting and the tedious procedures should be avoided. *Apatarpana* and *Panchakarma* among *shashtiupakrama* are less significant in the elderly population. *Balya* (strength promoting), *snigdha* (unctuous), *ojovardhaka* (immunity booster) and meticulous procedures are attributable to increasing the health status of the elderly.

Conclusion: Population aging is a global phenomenon. The proportion of elderly is increasing in population due to decreasing fertility and increasing longevity. The elderly population with an active lifestyle has made people to face more serious injuries. Ayurveda is an holistic system of medicine to promote health and cure diseases in healthy and patients respectively. *Shashtiupakrama* has a similar basic principle that contains all the treatment modalities which act topically and systemically in the management of the wound. Hence *shashti upakrama* is an ideal treatment protocol for managing wounds in the geriatric population in both preventive and curative aspects.

Chart No1: Management of Acute Wound.

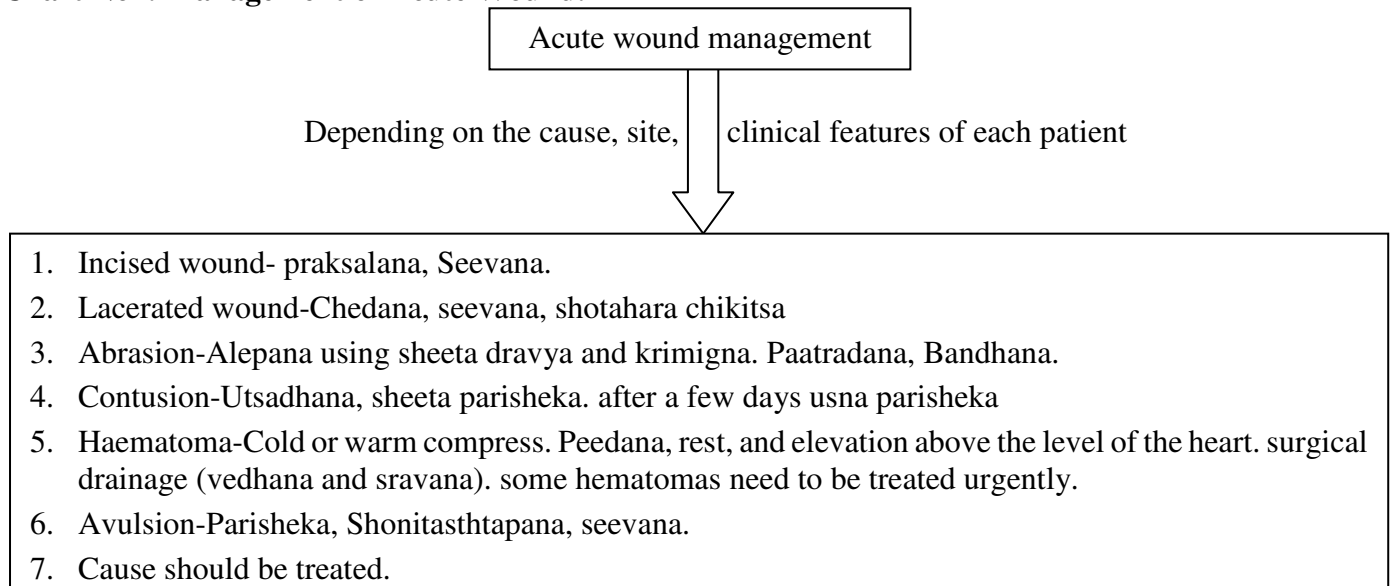


Chart No 2: Management of Chronic Wounds.

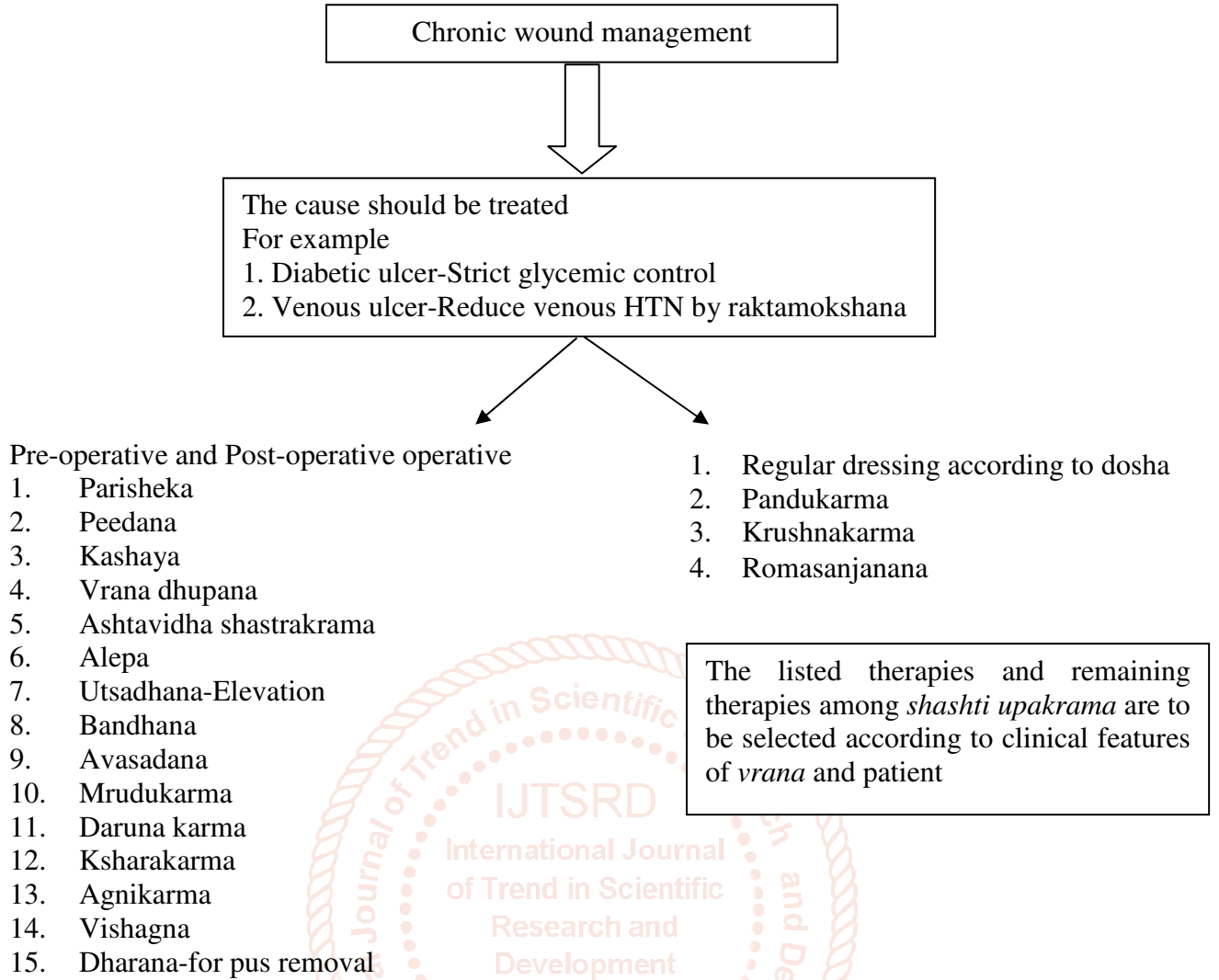
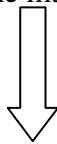


Chart No.3: Preventive measures of Geriatric Wounds.

Shashtiupakrama for prevention of geriatric wounds

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Sr. no	Upakrama	Benefits
1	<i>Snehapana</i>	combat vata prakopa
2	<i>Brahmana</i>	saptadhatu vriddhi
3	<i>Ahara</i>	reduce nutritional deficiency
4	<i>Rakshavidhana</i>	protect from microbes
5	<i>Kavalagraha</i>	strengthen anatomy of the face
6	<i>Nasya(Bruhmana)</i>	Nourish sense organs
7	<i>Abhyanga</i>	Maintain the integrity of the skin
8	<i>Basti</i>	nourish neurological system

Chart No. 4: Management of Doshaja vrana.*Shashtiupakrama in the management of doshaja vrana*

- A. *Vataja vrana-Parisheka with ghrta, taila, dhanyamla etc, Abhyanga, Swedana, upanaha, Basti, Ropana using dashamula, dhupana, brihmana etc.,*
- B. *Pittaja vrana- Parisheka with dugdha, bhrita etc, Virechana, nirvapana, ghrta, ropana using nyagrodhadi and kakolyadi gana, mrudu dhupana, etc.*
- C. *Kaphaja vrana- Parisheka with ksharajala, gomutra etc, Vamana, Lekhana, pachana, Vedhana and sravana, Kashaya varna shodhana, ropana using aragvadhadi gana, dhupana, ksharakarma. Pratisarana etc.,*
- D. *Dwidoshaja-Dwidhoshaja chikitsa*
- E. *Sannipataja-tridoshaja chikitsa*

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