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Case Study: Management of Chronic Non Healing Wound by Ayurvedic Medicines

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Abstract

Ayurveda described so many compound medicines and oil for oral administration and topical application toaccelerate the wound healing. But this is not scientifically validated.Charaka Samhita chikitsasthana 25th chapter and Sushruta Samhita 1st part of his compendium described about the wound healing and its types as vranitopasaniyaadhyaya.So there is always a search for finding a newerand better medicine for wound healing. I am presenting a case of 45 year old married female with complaint of superficial external wound with severe pain,and burning sensation and not healingsince 1 month in spite of taking allopathic conventional treatment in her lower ankle joint. The study was done in my outpatient department of Major S D Singh PG Ayurvedic Medical College And Hospital, Farrukhabad.On examination it was found that surface area of superficial wound is 5.2 sq. cm. having full thickness, skin loss involving necrosis of subcutaneous tissue extended down to underlying fascia. Necessary laboratory investigations were done prior to initiate the treatment. The wound was irrigated with *Nalpamaradi Kashaya*and dressing with *Vajraka Tail* was done daily followed by oral intake of *Kaishoraguggulu* 500mg twice in a day and *Mahamanjishtadi Kashaya* given for 21 days followed by *Valiyamadhusnuhi rasayanam* 1 tsp twice in a day was administered orally till 45days. Periodic follow up was done on 0, 20 and 45 days. This regimen was found to be effective in faster wound epithelialization, and reducing wound exudates. There was no evidence of any allergic reaction as well as no evidence showing any adverse event on the wound.

Key words: Dushtavrana, Non healing wound, Re-epithelialisation , Valiya Madhu Snuhi Rasayanam

Introduction

The word Dushta Vrana is aspect of as a bad ulcer, offensive or as affected ulcerand characters of the Dushta Vrana are mentioned by various ancient Acharyas. All theancient acharya believed that the Dushta Vrana can not be treated easily**. Every Vrana except S**huddha Vrana may include under the definition of Dushta Vrana because all the **Vranas either S**haririka or Agantuja, if not properly treated, may turn in to Dushta Vrana. When the predominant doshas take place in to Vrana it is called Dushta

Vrana. Many kinds of complications are take place in DushtaVrana due to involvement of Doshika imbalance and so many complications produced by the various combinations of Doshas. The different types of signs and symptoms which may classified under the heading of colour, discharge, odour, shape and nature of pain.

A chronic wound may be defined as one that is physiologically impaired due to a disruption of the wound healing cycle as are sult of impaire dangiogenesis, innervation, or cellular migration[1]. The time taken for complete epithelialization differs depending on various factors, morbidities (e.g.,diabetes, autoimmune disease and peripheral artery disease), increased body mass index, anatomic location, and medications. On the basis of time required to heal the woundwe can't differentiate chronic wound from acute wound.Some suggest that lack of 50 percent reduction of thesurface area of wound in one month time is regarded aschronic wound[2]. The chronic, non-healing wound isprone to infection, and causes pain, diminished quality of life[3] Ayurveda is anancient science**.** Topical applications of Ayurveda medicate doilandoral administration of compound Ayurveda medicine for accelerated wound healing have been practiced historically. Different wounds require dressings for different reasons. Some wounds need protection from exogenous infection while others need a conducive environment for healing till the skin regenerates. Acceleratedre-epithelialization, minimizing pain and preventing infection are main goals of dressing care. Thus, the quest for finding newer andbetter alternatives is a continuous endeavour in medical research.

Case report

A 45 year old married female with complain of superficial external wound having severe pain, burning sensation and not healing the wound in the ankle joint since 20 years. She used to take day allopathic treatment for the same, but not getting the permanent solution, she started taking ayurvedic medicine at my outpatient department Major S D Singh PG Ayurvedic medical college and Hospital. On examination it was found that surface area of superficial wound is 5.2 sq. cm. having full thickness skin loss involving necrosis of subcutaneous tissue extended down to underlying fascia. The cause of wound was unknown. Her vitals like pulse rate, blood pressure, respiration rate were normal. Besides, systemic examination was doneand no significant morbidities are found. she was from amedium socioeconomic background. The patient was a non-smoker and a non-alcoholic. There was no significant history of illness and family history except the patient's father was a smoker and use to take '*bidi*'. After taking these details, the present history of the illness, past history and family history of the patient was taken. Laboratory investigations like TLC, DLC, ESR, KFT, LFT, Blood Sugar Fasting and Post Prandial was done at base line and after 20 days of the study. On the basis of his history and laboratory investigations it was diagnosed as *Jirnavrana* (Chronic nonhealing wound). The Bates Jensen wound assessment tool was used periodically to assess the result.

Procedure and drug intervention

Under a septic condition the wound was irrigated with *Nalpamaradi kashaya*. The wound site was treated with sufficient quantity of sterile *Vajraka Taila*. Then the site was normally dressed with non-adherent primary dressings. Concomitant systemic medication like *Kaishoraguggulu* 500mg twice daily after food and *Mahamanjishtadi Kashaya* 15 ml with luke warm water before food. plain was given orally for 20 days. After 20 days *Valiyamadhusnuhi rasayana* was given. In Follow up wound evaluation were done on Baseline, 20th day and 45th day.

Total duration of treatment

45 Days

Procurementofdrugs

Medicines from Aushadi Pharmacy, Kerala

TableNo:1:Medications

Sl no	Name of formulation	Dose and duration	Anupana
1	*Kaishoraguggulu*	500 mg twice in a day for 28 days	Normal Water After Food
2	*Mahamanjishtadi kashayam*	15 ml kashayam for 28 days	With Lukewarm Water
3	*Valiyamadhusnuhi rasayanam*	1 tsp for 2 weeks	With Lukewarm Water
4	*Vajrakatailam*	Quantity suffiecient	For local application
5	*Nalpamaradikashayam*	Quantity suffiecient	For wound irrigation

Table No:2PERIODIC FOLLOW UP PHOTOGRAPHS

TABLE NO 3: RESULT

Item	Assessment	Date 01-04-21	Date 20-04-21	Date 13-05-21
1. Size	1=Length x width <4sqcm 2=Length x width 4--<16sqcm 3=Length x width 16.1-- <36sqcm4=Length x width 36.1--<80sqcm5=Length x width>80sqcm	3	2	0
2. Depth	1=Non-blanchableery them aonintact skin 2=Partial thickness skin loss involving epidermis &or dermis 3=Full thickness skin loss involving damage or necrosis of subcutaneous tissue; may extend down to but not through underlying fascia; &/ormixed partial & full thickness &/or tissue layers obscured by granulation tissue 4=Obscured by necrosis 5=Full thickness skin loss with extensive destruction, tissue necrosis or damage to muscle, bone or supporting structures	2	2	0
3. Edges	1=Indistinct, diffuse, none clearly visible 2=Distinct, out line clearly visible, attached, even with wound base 3=Well-defined, not attached to wound base 4=Well-defined,not attached to base,rolled under,thickened 5=Well-defined,fibrotic,scarred or hyperkeratotic	2	2	0
4. Under-mining	1=Nonepresent 2=Undermining<2cm in any area 3=Undermining24cminvolving<50%woundmargins 4=Undermining24cminvolving>50%woundmargins 5=Undermining>4cmorTunneling in any area	2	2	0
5. NecroticTissueType	1=Nonevisible 2=White/grey nonviable tissue&/or non adherent yellow slough 3=Loosely adherent yellow slough 4=Adherent,soft,blackeschar 5=Firmly adherent,hard,blackeschar	2	2	1
6. NecroticTissueAmount	1=Nonevisible 2=<25% of wound bed covered 3=25%to50% of wound covered 4=>50%and<75% of wound covered 5=75%to100% of wound covered	2	1	1

7. ExudateType	1=None 2=Bloody 3 = Serosanguineous: thin, watery, pale red/pink 4=Serous:thin,watery,clear 5=Purulent:thin or thick,opaque,tan/yellow,with or without odor	3	1	0
8. ExudateAmount	= None , Dry wound 2=Scant,wound moist but no observable exudate 3=Small 4=Moderate 5=Large	2	2	0

Item	Assessment	Date 01-04-21	Date 20-04-21	Date 13-05-21
9. Skin Color Sur-rounding Wound	1=Pink or normal for ethnic group 2=Bright red &/or blanches to touch 3=White or grey pallor or hypopigmented 4=Dark red or purple&/or non-blanchable 5=Black or hyperpigmented	3	2	3
10. Peripheral TissueEdema	1=No swelling or edema 2=Non-pitting edema extends<4cm around wound 3=Non-pitting edema extends≥4cm around wound 4=Pitting edema extends<4cm around wound 5=Crepitus and/or pitting edema extends≥4cm around wound	2	1	1
11. Peripheral TissueInduratio	1=None present 2=Induration,<2cm around wound 3=Induration2-4cm extending<50%around wound 4=Induration2-4cm extending≥50%around wound 5=Induration>4cm in any area around wound	2	1	1
12. Granu-lationTissue	1=Skin intact or partial thickness wound 2=Bright,beefyred;75%to100% of woundfilled&/or tissue overgrowth 3=Bright,beefyred;<75%&>25% of wound filled 4=Pink,&/ordull,dusky red&/or fills≤25%of wound 5=No granulation tissuepresent	2	2	1

13. Epithe-lializa-Tion	1=100%wound covered,surface intact 2=75%to<100%wound covered &/or epithelial tissue extends>0.5cm in to wound bed 3=50%to<75%wound covered&/or epithelial tissue extends to <0.5cm in to wound bed 4=25%to<50%wound covered 5=<25%wound covered	2	2	1
TOTALSCORE		29	22	09

Discussions

Wound healing is a complex process have different phases, the inflammatory phase, the proliferative phase and the remodeling phase. Each phase has its unique contribution and specific steps as awhole to bring the process of wound healing. The basic principle is to minimize the damage to the tissues, provide nutrients, oxygen to the healing tissues and optimization of environment for rapid wound healing[5,6]. The problem in wound heal in goccur due to various factors local and systemic. Reactive oxygens pecies are one the important factors that hinders the process of wound healing[7]. Free radical scavengers are protective against the irreactive oxygens pecies. During the wound healing process the neutrophil cause respiratory burst which initiate the reactive oxygenspecies [8]. These are produced by other cells too by NADPH pathways[9] These species cause the lipid peroxidation, DNA damage and enzyme inactivation. Topical application of free radicals cavenging compound reduces the oxidants burden and promote rapid wound healing[10] The wound sized ecreases when healing starts, this occurs in secondary wound healing due to contraction of myofibroblasts. In this case after application of *Vajraka Tail*, the wound sized ecreased from score 3 to 1(Tableno.2) on day, 20th and 45th. This shows accelerated wound healing. Edge of the wound is an important feature; it gives a hint to wards the aetiology. Healing wound have sloppy edges. Application of *vajraka Tail* along with *Manjishtadi Kashaya and Kaishora Guggulu* orally improved the wound edges on day, 7 and day 14. Exudate type and exudate amount depends upon the nature of wound. Inchronic foul smelling wound the bio burden of wound ismore hence exudate is more and also contains bacteria and other tissue metabolites. In this case on day, 7th day 14th and day 28th exudate type and exudate amount are decreased. *Kaishora guggulu* is an ayurvedic compound drug composed of purified *Guggulu* (*Commiphoramukul*). In Ayurvedic medicineanti allergic, antibacterial and blood purifying properties are found in this herbal preparation [11]. Chief ingredients of *kaishora gugulu* is triphala and *Gugulu*. *Triphala* has immunomodulatory, and *Tridoshasamak* property and hence it reduces the oxidants burden and promote rapidwound healing. *Amalaki (Emblica officinalis*) powder contains heavy amounts of VitC. The major function of vitamin C (ascorbicacid) in wound healing is as sistingin the formation of collagen, the most important protein of connective tissue[12] and also possess immune modulator activity that helps to heal the wound. *Guggulu* hasanti-inflammatory effects which can decrease the tissue oedema of the peripheral skin around the wound. This may be due to active Phytoconstituents, astringents and tannins[13]. The drugs in *Nalpamaradi kashaya* are *Kashaya Rasa*, *Sheeta Veerya*, *Katu Vipaka* and *kaphapittashamak*. The discharge in wound are due to vitiated *Kapha,* and *Pitta dosha*. *nalpamaradi* is *sheet veerya* and *Rukshya* in nature and hence pacify the vitiated *Pitta dosha* and due to its *Rukshya guna* vitiated *Kapha dosha* pacified and hence reduces the discharges in wound. Besides it also contains anti-microbial substances. The Tannin founds in *Nalpamaradi Kashaya* acts as Anti-inflammatory by in habiting enzymes such as 5-lipoxygenase & hyaluronidase. Tannins have been reported to have antibacterial activity[14]. *Vajraka Tail* contains, *Haridra, Daruharidra, and triphala*. These drugs are having antimicrobialactivity. The ingredients in *Mahamanjishtadi kashaya* like *Manjistha, Sariva, and Karanja* are *vrunashodhaka* (woundcleansing) properties. *Katuka* improvesre- epithelialization, neo-vascularization and migration of endothelial cells, dermal fibroblasts into the wound bed[15]. *Jati* is having *vranaropaka* (Woundhealing) action. *Tuttha* induces vascular endothelial growth factor in the wound. Hence in Ayurveda *Vajraka taila*is used as *Shothahara, Vedanasthapaka* and *Vrana Ropaka*[16]

CONCLUSION

Irrigation of *Nalpamaradi Kashaya* followed by Local application of *Vajraka Taila* and oral administration of *Kaishora guggulu* and *MahaManjishtadi Kashaya along with Valiya Madhu snuhirasayanam* was found to be effective in faster wound epithelialization, and reducing wound exudates. Therewas no evidence of any allergic reaction as well as no evidence showing any adverse event on the wound. Hence this can be safely used in chronic non healing wound.

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