Management of *Thusta viranam* (Chronic diabetes mellitus associated venous leg ulcer) by using Traditional treatment regimen: A case study

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Abstract

Chronic wounds, such as venous leg ulcers, are common and often persist for weeks or months. One type, *Thusta viranam*, described in Traditional and Siddha literature, is characterized by deep, purulent, foul-smelling wounds with severe pain, swelling, and itching. Traditional and Siddha medicine recommends various topical and oral treatments to promote healing. *Punsudar thailam*, mentioned in *Anuboga Vaithiya Navaneedha Thirattu*, is used for wound healing and contains purified Sulphur (*Ganthagam*) and castor oil. This case study investigates the efficacy of *Punsudar thailam* in treating a *Thusta viranam* (Chronic diabetes mellitus associated venous leg ulcer). A 52-year-old female with a three months history of a painful, swollen, foul-smelling wound due to varicose veins, located above the lateral malleolus of her left leg, was admitted to the Siddha Teaching Hospital in Kaithady. The patient also had a history of diabetes, hypertension, dyslipidaemia, and fatty liver disease. She was diagnosed as *Thusta viranam* (chronic diabetes mellitus associated venous leg ulcer) and treated with wound cleaning using *Panjathuvarpi* decoction (*Kudineer)*, followed by *Punsudar thailam* application and oral internal medicines such as *Neermulli* decoction (*Kudineer), Pattolathy peerkku* decoction (*Kudineer), Sudarsana chooranam, Chandraprabha vati,* and *Vallarai chooranam.* The treatment was evaluated weekly through wound measurements and photographs using the Photographic Wound Assessment Tool (PWAT). Over a period of 29 days, weekly evaluations showed a reduction in wound size from 5cm x 5cm to 3cm x 3.5cm with near complete closure (<0.1 cm). The PWAT score decreased from 17 to 07, indicating partial wound closure. These results suggest that *Punsudar thailam*, combined with internal medicines, effectively aids in healing *Thusta viranam* (chronic diabetes mellitus associated venous leg ulcer).

Keywords: Diabetes mellitus, *Panjathuvarpi kudineer, Punsudar thailam*, Traditional medicine, *Thusta viranam*

Introduction

Venous leg ulcers are, the most prevalent type of chronic lower leg ulcer worldwide[1]. In Sri Lanka Chronic ulcers commonly arise from diabetes, nerve damage (neuropathy) associated with conditions such as leprosy, prolonged pressure on the skin (pressure ulcers), burns, poor venous circulation (venous ulcers), and inadequate arterial blood supply (arterial ulcers)[2]. A chronic wound is defined as one that fails to heal in a timely manner, often persisting for weeks or months. Such wounds typically do not progress through the normal Stages of healing and can be caused by various factors[3]. According to the research finding the latest data on the subject have shown that the global prevalence of chronic wounds lies at 1.67 per 1000 population[4]. Most chronic wounds refer to chronic leg ulcers, and their computed worldwide prevalence is 1.51 per 1000 of these, the most reported ethology is venous disease[5]. Numerous types of wounds (*Viranam*) are described in Siddha and

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traditional literature. The Tamil English Dictionary by T.V. *Sambasivampillai* lists 22 types[6]. *Siddhar Aruvai Maruthuvam* describes 16 types,[7] while *Sarabenthira Vaithiya Muraigal* text describes 2 types[8]. *Thusta viranam* is one of the types of wounds, characterized by deep, purulent smell wound with severe pain, swelling and itching[8]. *Punsudar thailam* is a prepared medicine for *Pilavai* (Carbuncle), *Pounthiram* (Fistula), *Pu*n (Wound), *Katti* (Abscess), and *Vitpuruthy* (Tumour), as mentioned in *Anuboga vaithiya navaneedha thirattu*. Its ingredients are purified Sulphur (*Ganthagam*) and castor oil[9]. we attempted to use the same medicine for chronic wound to assess its wound healing potential.

Case Details

A 52 years old female patient was admitted to the IPD at Siddha Teaching Hospital, Kaithady, working as a Teacher from Tholpuram, Jaffna District. The patient had complaints with gradual onset, an oval-shaped wound due to varicose vein above the lateral malleolus of her left leg for three months associated with painful, swollen, foul-smelling, itchy, and weeping wound. She has a medical history of diabetes mellitus, hypertension, dyslipidaemia and fatty liver for 15 years. In 2002, She suffered by cellulitis in left lower leg and acute pyelonephritis.

Physical examinations revealed a single, oval shaped wound with irregular and rough margins. The wound base was covered with erythematous tissues in the central part few amounts of slough covers in margin areas and a small amount of foul-smelling discharge observed. The wound, measurement was 5cm x 5cm x 1cm, located above the lateral malleolus of the left leg, with surrounding hyperpigmentation, swelling, heat, and tenderness.

Procedure of Treatment

Internal procedure

The patient was treated according to the Traditional medicine line of treatment. On the first day, *Virechana poopathy* with a dosage of three tablets along with 10ml hot water was administrated on an empty stomach for purgation. On the second day, the patient underwent an oil bath using 30ml of gingelly oil applied mainly to the head, chest, lower abdomen, and limbs, after 20 minutes got warm water bath. From the third day onwards, internal medicines were administrated. For first five days' management given for blood purification (Table 1). Second set of medicine (Table 2) given for twenty-four days for wound healing purpose. Diet was restricted with hospital food for diabetic management.

Table 1: Treatment procedure (Internal) for first five days

Name of the drug	Dose and duration	*Anupanam*
Neermulli kudineer	60ml twice in a day before food for 5 days	
Sudarsana chooranam	2g twice in a day after food for 5 days	With normal water
Chadraprabha vatti	2 pills twice in a day after food for 5 days	With normal water

Table 2: Treatment procedure (Internal) for next twenty-four days

Name of drug	Dose and duration	*Anupanam*
Paddolathi peerkku kudineer	60ml twice a day before food for 24 days	
Sudarsana chooranam	02g twice a day after food for 24 days	With normal water
Chandraprabha vati	02 pills twice a day after food for 24 days	With normal water
Vallarai chooranam	01g early morning empty Stomach for 24 days	With normal water

External procedure

The patient's left lower leg was immersed in *Panjathuvarpi kudineer*, followed by wound cleansing using the same decoction. *Punsudar thailam* was applied topically, and the wound dressing was done daily. Weekly wound measurements and photographic assessments were

carried out to monitor healing progress. The outcome was assessed by reduction of size by using the PWAT Scale (Photographic Wound Assessment Tool). Wound measurement method for length and width measurement, placed the ruler over the wound, aligning it with the longest side. For depth measurement Placed a sterile cotton swap into the deepest part of the wound bed. Grasped the applicator where it meets the wound margin and places it against the ruler. wound that open but appear to have no depth, record depth as "<0.1 cm.

Results

Table 3 illustrations the weekly wound size measurements and Table 4 shows the PWAT score of before and after management of wound.

Table 3: Weekly wound size measurements

Date	Length	Width	Depth
26.08.2024 (1st day)	5cm	5cm	1cm
02.09.2024 (8th day)	4.5cm	4.5cm	0.2cm
09.09.2024 (15th day)	4cm	4.5cm	0.1cm
16.09.2024 (22th day)	3.5cm	4cm	<0.1cm
23.09.2024 (29th day)	3cm	3.5cm	<0.1cm

Table 4: PWAT score of before and after management of wound

Item	Before	After
Size	4	3
Depth	1	0
Necrotic tissue type	1	0
Total amount of necrotic tissue	1	0
Granulation tissue type	2	1
Total amount of granulation tissue	3	1
Edges (directly touching and within 0.5cm of wound edge)	2	0
Peri ulcer skin viability	3	2
Total	17	7

Figure 1 to Figure 4 shows the weekly progression of the wound.

Fig.1: Wound at 26.08.2024

Fig2: Wound at 02.09.2024

Fig.3: Wound at 09.09.2024

Fig.4: Wound at 23.09.2024

Figures of 5 and 6 shows the wound images on follow up period

Fig.5: Wound at 30.12.2024

Fig.6: Wound at 24.03.2025

Discussion

The ingredients of polyherbal formulation *Neermulli kudineer* possessed predominantly diuretic, antimicrobial, anti-inflammatory, antioxidant activities, moderately immunomodulatory and minimally antidiabetic. Ingredients of *Neermulli kudineer* are *Hygrophila auriculata (Neermulli), Aerva lanata (Thengaipoo keerai), Cuminum cyminum (Sinna seeraham), Asparagus racemoses*

*(Saathavaari), Terminalia chebula (Kadukkaai) Emblica officinalis (Nellikkaai), Terminalia bellirica (Thaantrikaai) Santalum album (Vensanthanam)*and *Cymbopogan jwarancusa* (*Vilaamichai*)[10].

The raw materials of *Paddolathi peerkku kudineer* are *Terminalia chebula (Kadukkai), Terminalia bellirica (Thaandrikai), Emblica officinalis (Nelli), Asparagus racemosus (Saaththavari), Trichosanthes cucumerina (Peipudol), Tinospora cordifolia (Seenthil) Picrorhiza kurrooa (Kaduhurohini). Trichosanthes cucumerina* is one of the main ingredients in *Paddolathi peerkku kudineer* and it has anti-bacterial, anti-inflammatory, antioxidant activities and immunomodulatory activity[11].

Vallarai chooranam is a single herbal *chooranam*, its ingredient is *Vallarai* (*Centella asiatica*). The main chemical components of *C. asiatica* are important for wound healing. One of key compound, asiaticoside, helps produce type 1 collagen, which is important for skin health and prevents skin ageing. It also helps with the wound healing process by speeding up the movement of skin cells, encouraging cell growth, improving skin cell attachment and increasing the number of healthy skin cells[12].

Chandraprabha vati is an effective Ayurvedic remedy for managing diabetic complications. It contains a blend of medicinal herbs known for their potent anti-diabetic properties. This formulation helps regulate blood sugar levels and promotes vascular health, preventing the progression of foot ulcers[13,14,16]. Additionally, *Chandraprabha vati* has anti-inflammatory effects[15], offering relief from pain and swelling around open wounds. Its ingredients are *Cinnamomum camphora* (Katpoora), *Acorus calamus* (*Vasampu*), *Cyperus rotundus* (*Korai*), *Swertia chirata* (Nilavembu), *Tinospora cordifolia* (*Seenthil*), *Cedrus deodara* (*Devatharu*), *Curcuma longa (Manjal)*, *Aconitum heterophyllum* (*Athividayam*), *Berberis aristata (Maramanjal*), *Piper longum* (*Thippili*), *Plumbago zeylanica* (*Siththiramoolam*), *Coriandrum sativum* (*Koththtamalli*), *Terminalia chebula* (*Kadukkai*), *Terminalia bellirica* (*Thandri*), *Emblica officinalis* (*Nelli*), *Piper chaba* (*Aanithippili*), *Embelia ribes* (*Vaividangam*), *Zingiber officinale (Inji*), *Piper nigrum* (*Milaku*), *Piper longum* (*Thippali*), *Operculina terpethum* (*Sivathai*), *Baliospermum montanum* (*Neeradi muththtu*), *Cinnamomum tamala* (*Thalisapathiri*), *Cinnamomum zeylanicum* (*Karuva*), *Elettaria cardamomum* (*Ealam*), *Bambusa arundinaceae* (Moongil), *Commiphora mukul* (*Gugul*), Copper pyrite, Potassium carbonate, Sodium bicarbonate, Rock salt, Black salt, Ammonium chloride, Ferrum, Sugar and Aspelt mineral pitch[16].

Sutharsana chooranam possesses several pharmacological activities, including antipyretic[17], antimicrobial[18,19,20], antimalarial[20,21], antiviral[21,22], and antidiabetic[23] effects. The raw materials used in the preparation of *Sutharsana chooranam* include, *Swertia chirata (Nilavembu), Trichosanthes dioica (Kombupudal), Ureria picta (Sittirapaladai) ,Jateorrhiza palmate (Maramanjal), Curcuma longa (Manjal), Cedrus deodar (Devatharu), Acorus calamus (Vasambu), Desmodium trifiorum (Sirupulladi), Terminalia chebula (Kadukkai), Alhagi pseudalhagi (Kanjori), Rhus succedonia (Karkadakasingi), Solanum xanthocarpum (Kandankaththari), Zingiber officinale (Inji), Legenaria siceraria (Suraikkai), Naregamala alata (Nilanarakam), Azadiracta indica (Vembu), Piper longum (Thippili), Pavonia odorata (Peramatti), Hedychium spicatum (Poolankilangu), Inula racemose (Puskaramoolam), Terminalia bellirica (Thandrikai), Marsdemia tenacissima (Perunkurinjan), Embilica officinale (Nelli), Tinospora cordifolia (Seenthi)l, Picrorrhiza kurrora (Kadukurogini), Plumbago zeylanica (Venkodiveli), Moringa oleifecalam (Murungai), Asparagus racemosus (Saaththavari), Berberis aristata (Maramanjal), Didymocarpus pedicellata (Kalpaasi), Nelumbeum speciosum (Thamarai), Pinus roxburghil (Seemaithevathaaru), Andropogon muricatus (Vettiver), Cinnamon cassia (Karuva), Cinnamomum inners (Elavangam), Desmodium gangaticum (Sirupulladi), Ptychotis coptica (Asamothakam), Aconytum heterophullum (Athividayam), Aegle marmelos (Vilvai), Piper nigrum (Milaku), Holarrhena antidysentrica (Kudasappala)* and *Glycyrrhiza glabra (Athimathuram)*[17].

The raw materials of *Panchathuvarpi kudineer* are *Ficus bengalensis (Aal), Ficus recemosa (Aththi), Syzygium jambolanum (Naaval), Ficus religiosa (Arasu)* and *Thespesia populnea (Poovarasu)*. It possesses pharmacological antimicrobial activity[15]. This review explains the potential of these formulations, providing strong evidence for their effectiveness in wound management.

52-year-old female with diabetes mellitus and bilateral varicose vein presented with a 3-month-old chronic wound above the left lateral malleolus. Initial assessment showed a 5 cm x 5 cm x 1 cm wound. After 29 days of treatment, the wound size reduced to 3 cm x 3.5 cm x <0.1 cm, and the PWAT score decreased from 17 to 7, indicating partial wound closure. This improvement was attributed to appropriate wound dressing and internal medicine management.

Conclusion

The results suggested that *Punsudar thailam* with internal medicine is effective in the management of *Thusta viranam* (Chronic diabetes mellitus associated venous leg ulcer) and further clinical studies will be conducted in future.

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