

Clinical Evaluation of Panchavalkal Kashay Dhavan in the Management of Diabetic Wound

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Introduction

Ayurveda, the first organized system of medicine, ever evolved throughout the globe, is not mere a system dealing with healing techniques and curing diseases. It is indeed a codified science which issues definite guidelines for healthy, peaceful and happy living and maintenance and protection of physical and psychological health, with an object of achieving longevity. The system has been primarily developed with two basic objectives viz. maintenance of health and prevention of disease in a healthy individual and eradication of diseases in diseased. An attempt has been made to screen classical literature for the herbs with cleansing properties and found that, **Pancha Valkala** the barks of five milk-yielding trees has activities like vranaprakshalana, vranaropana, shothahara, upadanshahara visarpahara. Pancha Valkala is the combination of barks of five different plants viz. Vata (Ficus bengalensis Linn.), Udumbara (Ficus glomerata Roxb.), Ashwattha (Ficus religiosa Linn.), Parisha (Thespesia populnea Soland. ex Correa.), Plaksha (Ficus lecor Buch. Ham.)

The ingredients of **Panchavalkala** has the properties of kaphavatahara and also varnya and vrana ropana, rakta shodhaka properties hence by administering these drugs in the form of Kashaya, it will clear the ducts and also does the varna prasadana. The drugs in this Kashaya are also having anti inflammatory effect, thus help in treating diabetic wound. Because Panchavalkala Kashaya seems to have property like Vranaprakshalana, Vranaropana and Shothahara.

Preventing secondary infections in the **Diabetic Wounds** with safe and efficacious anti bacterial agents is must in the current scenario to enhance the wound healing process. Panchavalkala has activities like vranaprakshalana, vranaropana, shothahara, upadanshahara, visarpahara.

Study revealed that Panchavalkala kwatha is kapha shamaka, stambhaka and having the properties like astringent, antiseptic (kashaya rasa) and wound healing (vrana ropana). Because of these properties it helps in increasing local cell immunity and prevents recurrence of symptoms in patients.

Materials And Methods

Detail Plan and Protocol -

Centre of Study: Department of ShalyaTantra, Yashwantrao Chavhan Ayurved Medical College and Hospital, Aurangabad.

No. of Patients: 10

DURATION OF TRETMENT: 6 weeks

Raw Material: Barks of Panchavalkala were procured from reputed pharmacy in Mumbai. Coarse powder of the drugs were made and used for the preparation of the Quath (Decoction).

Formulations : Panchavalkala kwatha was prepared by following classical guidelines in Department of ShalyaTantra, Yashwantrao Chavhan Ayurved Medical College and Hospital

Method Of Preparation Of Kashaya (Decoction) :

Coarse powder of Panchavalkala were prepared and soaked in 8 times of water for overnight. Next day it was subjected to heat with continuous stirring and the quantity was reduced to 1/4th of the initial volume. The liquid was filtered

through four folded clean cotton cloth and the filtrate was collected as Kwatha.

Composition of Panchavalkaladi Kwatha

Drugs	Latin Names	Part used	Proportion
Vata	Ficus bengalensis L	Bark	70g
Udumbara	Ficus glomerata	Bark	70g
Ashwattha	Ficus religiosa	Bark	70g
Parisha	Thespesia populnea	Bark	70g
Plaksha	Ficus lecor Buch.	Bark	70g
Water	--	--	8 times Reduced to 1/4th

Inclusion Criteria :

- 1) Patients suffering from Diabetes Mellitus with Diabetic wounds.
- 2) Patients of both sexes male & female.

Exclusion Criteria :

- 1) Patients suffering from Diabetes Incipidus.
- 2) HIV Positive Patients.
- 3) Hepatitis B Positive Patients.
- 4) Patients suffering from Peripheral Arterial Disease.
- 5) Patients suffering from Peripheral Venous Disease.
- 6) Uncontrolled Diabetes.
- 7) Complicated wound like Osteomyelitis, Gangrene etc.

Criteria For Assessment:

1. SLOUGH:

- Absent -0
- Slough covered upto 25% of wound -2
- Slough covered upto 25-50% of wound -3
- Slough covered upto 50-75% of wound -4

2. DISCHARGE:

- Absent -0
- Serous sanguineous -1
- Serous -2
- Purulent -3
- Purulent discharge with foul smelling -4

3. SWELLING:

- No Swelling -0
- Mild Swelling <2cm -1
- Moderate Swelling 2-5cm -2
- Severe Swelling >5 cm -3
- Inflamed margin -4

4. GRANULATION TISSUE:

- Healthy granulation tissue -0
- 75% wound covered with granulation -1
- 50% wound covered with granulation -2
- Unhealthy granulation with slough -3
- Granulation Absent -4

5. SIZE:

- Complete reduction -0
- 75% reduction -1
- 50% reduction -2
- 25% reduction -3
- No change -4

Assesment Of Result:

Cured – 76% to 100 % relief in signs and symptoms.

Markedly improved – 51% to 75% relief in signs and symptoms.

Improved– 26% to 50% relief in signs and symptoms.

Unchanged– upto 25% relief in sign and symptoms.

Wound Healing Study:

A pilot study of ten patients of Diabetic Wound was conducted in OPD and IPD cases of Shalya Tantra Department. The cases of diabetic wound were selected and sterile dressing was done after Panchavalkala kashaya dhavan for a period of six weeks. The study revealed that the test drug is potent in reducing inflammation by reducing slough due to **astrigent** property. The wound remained healthy and healing process was promoted. By this study we can infer that Panchavalkala kashaya dhavan has a role in **desloughing**, wound contraction and reducing inflammation thus promoting wound healing process faster.

Observations:

PARAMETERS	1 ST WE EK	2 ND WE EK	3 RD WE EK	4 TH WE EK	5 TH WE EK	6 TH WE EK
SLOUGH	4	3	1	0	0	0
DISCHARGE	4	3	2	1	0	0

SWELLIN G	4	3	2	1	1	0
GRANUL ATION	4	3	2	1	0	0
SIZE	4	3	2	1	1	0

Results And Discussion

Studies indicate that the Pharmacological action of **Panchavalkala** (Bark) is found to have **Antiinflammatory** and **Antimicrobial** properties. Early researches explain that tannins present in Nyagrodha and Udumbara are antioxidants and blood purifiers with anti-inflammatory actions. They hence might have helped to decrease the swelling. The phytosterols and flavonoids are anti-inflammatory and analgesic. Tannins also proved to have antimicrobial property which might have reduced the discharge. Hence these constituents in the panchavalkala might have helped in regression of signs and symptoms.

As diabetic wounds are most commonly prone for secondary infections they were selected for the study. Panchavalkal Quath is herbal based and effective anti microbial and enhances wound healing, it can be a drug of choice in the management of diabetic wound. Further research can be continued with larger sample to justify these observations.

Conclusion

The results of research project are very encouraging & indicate that the Panchavalakala should be studied more extensively to confirm these results & reveal other potential therapeutic effects. According to Guna Karma, Nyagrodha have properties of Varnya, Visarpaghna, Vyanga naashanama, Raktapittavinashana. Udumbar have properties of Vranashodhana, Ropana, Raktapittaghna. Ashvathha possess properties of Varnya, Raktadaaha shaman. Plaksha & Parish shows properties of Raktapittahruta, Raktadoshahara. In classical terms, it can be explained that Katu, Tikta, Kashaya Rasa, Laghu, Ruksha, Teekshna Guna, Ushna Veerya, Katu Vipaka and Kaphapittaghna properties of drugs are responsible to break the Samprapti of disease. **Desloughing** was done by **Vrana shodhan** property of PANCHAVALKAL KASHAY which altimetly reduced microbial load

and thus enhance the wound healing. As compared with modern view, Panchavalkala kwath is phytochemically dominant in phenolic group components like tannins, flavonoids which are mainly responsible for its excellent activities like antiseptic, anti-inflammatory, immunomodulatory, antioxidant, antibacterial, antimicrobial and wound purifying as well as healing and astringent properties. Panchavalkala Kashaya Dhawan reduces pain, discharge, slough, redness, swelling, surface area and depth of the wound.

Panchavalkala Kashaya comprising of Panchavalkala is an effective formulation which is user friendly and acts as strong **astringent** antibacterial agent in diabetic wounds and also enhances the wound healing process in the same.

PHOTOGRAPHIC PRESENTATION:



Fig 1: Fresh diabetic wound



Fig 2 : Diabetic wound after 1 week



Fig 3: Diabetic wound after 3 weeks



Fig 4: Diabetic wound after 4 weeks



Fig 3: Diabetic wound after 5 weeks



Fig 4: Diabetic wound after 6 weeks

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