

MANAGEMENT OF PERIPHERAL ARTERY DISEASE (PAD) DIABETIC FOOT IN GERIATRIC PATIENT BY AYURVEDIYA VRANA KARMAPrathamesh V. Karpe^{1*} and Divya Deepak Sharma²¹HOD, Associate Professor, Department of Shalya Tantra, Gomantak Ayurvedic Mahavidyalaya Shiroda, Goa.²HOD, Associate Professor Department of Shalya Tantra, Abhilashi Ayurvedic College and Research Institute, Mandi Himachal Pradesh.***Corresponding Author: Dr. Prathamesh V. Karpe**

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INTRODUCTION

Diabetic foot is a challenging problem now a days. It involves multidisciplinary medical expertise involving *Shalyatantra*, *kayachikitsa*, *swasthavritta*, Radiology etc. foot disease involves nearly 6% of population with Diabetes mellitus (DM). Diabetic foot involves infection, ulceration, peripheral vascular disease and microangiopathies and neuropathy and destruction of foot. 0.03-1.5% of people with Diabetes requires amputation. The problem arises even after amputation, the stump remains unhealed, or gangrene starts developing in higher areas above the stump and can result in mortality or more morbidity especially in geriatric population. This paper explores the potentials of *Ayurveda Vrana Chikitsa* and its clinical application in Diabetic foot.

MATERIALS AND METHODS

This is a short case studies of the Diabetic foot treated by applying the *Ayurveda* concepts of *Dushta vrana*, *avarana*. Patient who came to Shalyatantra O.P.D of Gomantak Ayurveda Mahavidyalaya & Research centre (GAM&RC) Shiroda Goa with Pre diagnosed Diabetic foot who were treated previously by conservative and surgically at Allopathic hospitals in Goa, advised for amputation were referred to the Shalya OPD of GAM&RC.

Ayurvediya nidaana- Dushtavrana^[1] + *Kaphavrutta vata*^[2] *saama Avastha*.^[3]

Chikitsa/line of treatment

- *Langhana*
 - *Rukshana*
 - *Paachana*
 - *Vranashodhana*
 - *Vrana Dhupana*
 - *Vrana Ropana*
 - *Rasayana*
- 1) *Langhana- Laghu, anabhishtandhi, avidahi, kaphahara aahara and vihara.*
 - 2) *Rukshana- Tikta and katu rasa dravya.*
 - 1) *Shaddharana churna-60mg* One hour before and after meals/food, morning ----afternoon----night.
 - 2) Tablet *Varnadi kashayam* 125 mg. morning, afternoon, evening, night half hour before food.
 - 3) Tablet *Aragwadhadhi kashayam* 250 mg morning - afternoon -night after food.
 - 4) *Guduchi kwatha- 25ml* one hour before food, morning, afternoon, evening and night.

- 5) *Guduchi churna- 500mg, siddha jala* (medicated water) 2.5 litres, as needed, hot sips of water to be consumed.
- 6) *Mahatiktaka ghrita* – 30 ml daily in the morning on empty stomach after attaining *shuddha vrana* and *niraama Avastha*.
- 7) *Triphala Guggulu* 500mg t.i.d.
- 8) *Pathya-* diet and regimen advised (*kapha medohara*)
 - a. Food should cooked, no raw food or uncooked food.
 - b. Medicated water for drinking, water should be hot/warm while drinking.
 - c. Decoction should be freshly prepared and warm while drinking.
 - d. Food cooked without *Snigdha dravya* like oil, ghee, coconut, dry fruits, butter etc.
 - e. Roti/chapati/bhakri prepared from single grain flour like wheat/Jwari/barley.
 - f. Pulses- Mudga, masoor.
 - g. Vegetables- cooked without *Sneha dravya*.
 - h. Spices- no red chilly.
 - i. Eating food only after onset of appetite.
 - j. Exercise- brisk walking before meals, sit-ups.
- 9) *Apathya-* diet and regimen not advised
 - a. Milk and milk items.
 - b. Fruits, vegetables uncooked.
 - c. Dry fruits
 - d. Unboiled water.
 - e. Fermented food items, sour and astringent taste food.
 - f. Eating without onset of appetite or digestion of previous meals
 - g. Meat, fish, eggs
 - h. Daytime sleeping after meals.

- i. Sedentary life style.
- 10) Vranakarma-
 - a. *Vrana Dhavana*- wound cleaning with *Triphala kwatha*.
 - b. *Vrana Dhupana* – *Vacha-haridra chura varti*.
 - c. *Avachurnana*- *Triphala churna*
 - d. *Vrana Pratisaranartha*- *Panchavalkala lepa* with *Ghritakumari (Aloevera)*
 - e. *Vrana bandha*

RESULTS

Vrana Ropana (Wound healing) was observed with in 6-7 months in 4 patients and 1.5 years in 1 patient without any other adverse events.

Shuddha vrana Avastha^[4] was observed after 2-3 weeks. Good Diabetic control was seen in fasting blood sample. HbA1c remained between 5-6.5 in all 5 patients.

Overall improvement in the general condition of health was seen.

There was no pain in the leg.

There was no morbidity. Patient could walk without any support.

DISCUSSION

In Ayurveda, the Sushruta Samhita explains the pathogenesis of Diabetes related infections in the chapter called *Prameha Pidaka*. *Acharya Sushruta* explains it as रसायनीनां च दौर्बल्यान्नोर्ध्वमुत्तिष्ठन्ति प्रमेहिणां दोषाः, ततो मधुमेहिनामधः काये पिडकाः प्रादुर्भवन्ति^[5] (*Sushruta samhita, Chikitsasthana, 12/8*)

The reason why *Prameha Pidaka* origins in lower part of the body is because of weakness of the *Rasayani*. *Acharya Dalhana* explains *rasayani* as the *Rasa, Pitta, kapha, Shonitavaha Dhamani* in the lower aspect of the body which results in accumulation of vitiated doshas in the foot resulting in *Prameha pidaka*.

Weakness in the *rasayani* can be understood as impairment in the arteries, lymphatics and vascular drainage, microangiopathies.

As *prameha* involves *Kapha* and *Meda* along with *kleda* as a main factor in *samprapti*. The arterial impairment caused by atherosclerosis can be understood as *avarana* caused by *vikruta kapha* and *meda* to the movement of *vata* i.e *kaphavrutta vata*.

While considering the Peripheral Arterial disease (PAD) in DM, one can apply the concept of *Kaphavrutta Vata, Vata Shonita nidaana* and *Chikitsa sutra* in treatment of

Diabetic foot as symptoms of PAD matches with the *kaphavrutta vata lakshanas* as follows.

शैत्यगौरवशूलानि कट्वादयुः उपशयोऽधिकम॥३२॥
लंघनायसरुक्षोष्णकामता च कफावृते।^[6]

- शैत्य(Shaitya)- Cold feet
 - गौरव(Gaurava)-Heaviness in the foot
 - शूल (Shoola)- Pain in the leg. Night time pain is symptom of *saama vata*.
 - Above symptoms are relieved by *langhana (apatarpana), ruksha, Ushna Chikitsa, Aayasa* (stretching), use of pungent (*Katu*) etc.
 - Ulcer- either *dusta vrana* or *Vataja vrana*.^[7]
Bheshaja karma
1. *Rukshana, Langhana* by *Pathya aahara* (diet) and *Vihara* (regimen) and *Bheshaja* (medicines) helps in resolution of inflammation, infection and improving the blood flow in the leg by development of collateral circulation.
 2. Hot water itself acts as a *vata-kapha medohara, agni dipana, aama Paachana*.^[8]
 3. Use of *Siddha ghrita* internally like *Mahatiktak ghrita, Triphala ghrita* helps in development of new granulation tissue.
 4. The use of *Tikshna basti (Ksharbasti)* was not advised due to weakness of pelvic musculature and *Dhatukshaya*. Hence orally *rukshana karma* was done.
 5. *Guduchi kwatha* and *siddha jala* helps in *tridosha prashamana, medohara, Dhatwagnivardhana*.
 6. *Shaddharana churna* improves *kapha* formed in *Prathma avasthapaka* as it's action is indicated in *Amashayagata-Vata*. It does *kleda, saama kapha-vata prashamana*.
 7. *Varnadi kashayam* helps in clearing *Saama kapha meda* in *rakta* and does *agni dipana*.
 8. *Aragwadadhi Kashayam* is indicated in *Dushtavrana awastha*.
 9. *Mahatiktaka Ghrita* helps in *kapha medohara, vatanulomana, pitta prashamana, dhatuvardhana, Dhatwagni vardhana, Rasayana*.
 10. *Triphala Guggulu* helps in *apakarshana* of *kapha-meda dhatu*. *Shoola prashamana*.
 11. *Vrana Dhupana* helps in drying up *kleda* thus reduces microbial load in the wound, stimulates granulation formation.
 12. *Triphala churna- Avachurnana* helps in reducing *kleda, meda, Kapha* in the *vrana* and helps in *vrana shodhana* and *ropana*.



Figure 1: Case 1 Diabetic foot right great toe Dushtavrana.



Figure 2: Case 1 Diabetic foot right great toe Shuddha vrana.



Figure 3: Case 1 Diabetic foot right great toe healed ulcer.



Figure 4: Case 1 Diabetic foot right great toe healed ulcer.



Figure 5: Case 2- Left Diabetic foot Dushtavrana.



Figure 6: Case 2- Left Diabetic foot Dushtavrana plantar side.



Figure 7: Case 2- Left diabetic foot shuddhavrana.

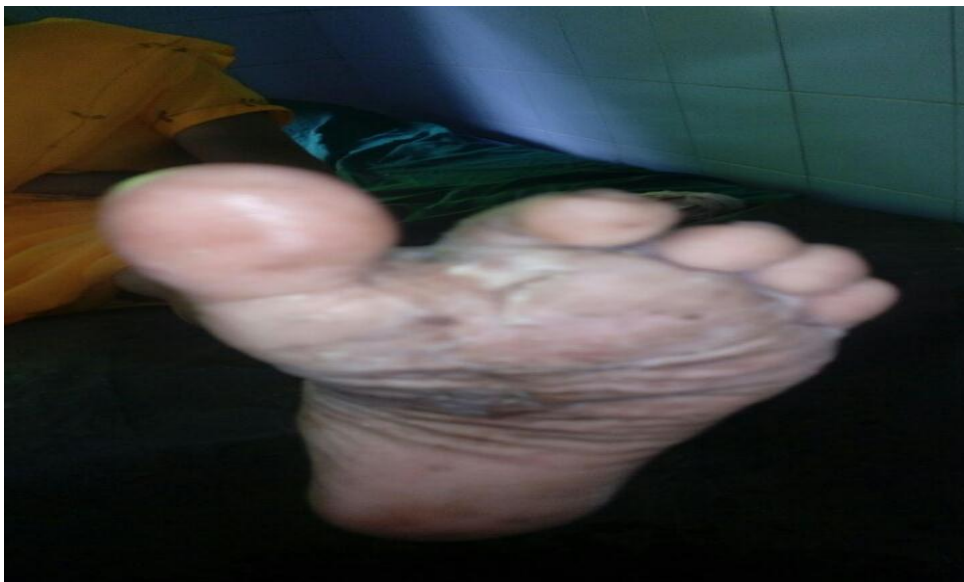


Figure 8: Case 2- Left Diabetic foot healed ulcer.



Figure 9: Case 2- Left Diabetic foot healed ulcer on the dorsum.



Figure 10: Case 3 non healing wound due to PAD, left foot.



Figure 11: Case 3 healed ulcer.



Figure 12: Case 4 non healing arterial ulcer in right great toe- dushtavrana.

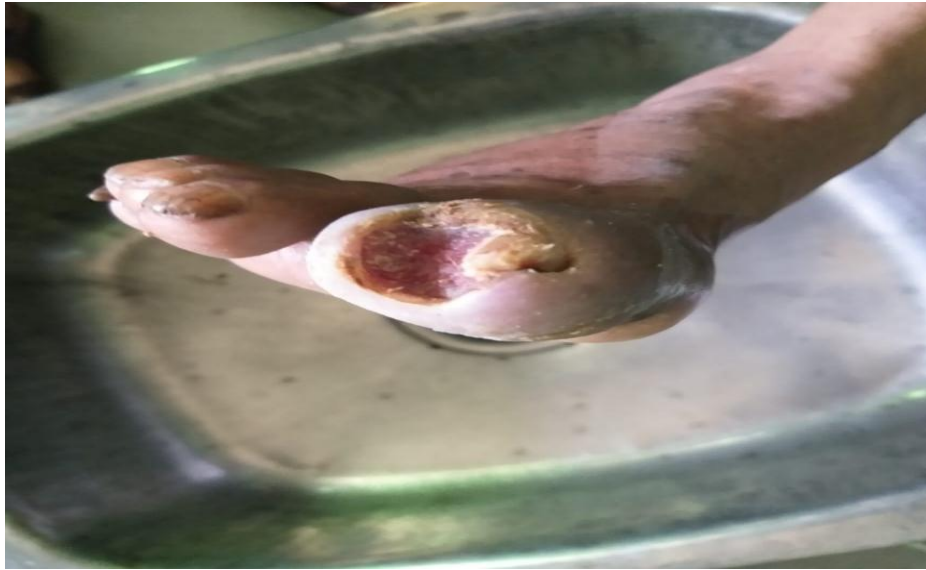


Figure 13: Case 4 non healing Arterial ulcer in right great toe- Shuddha vrana.

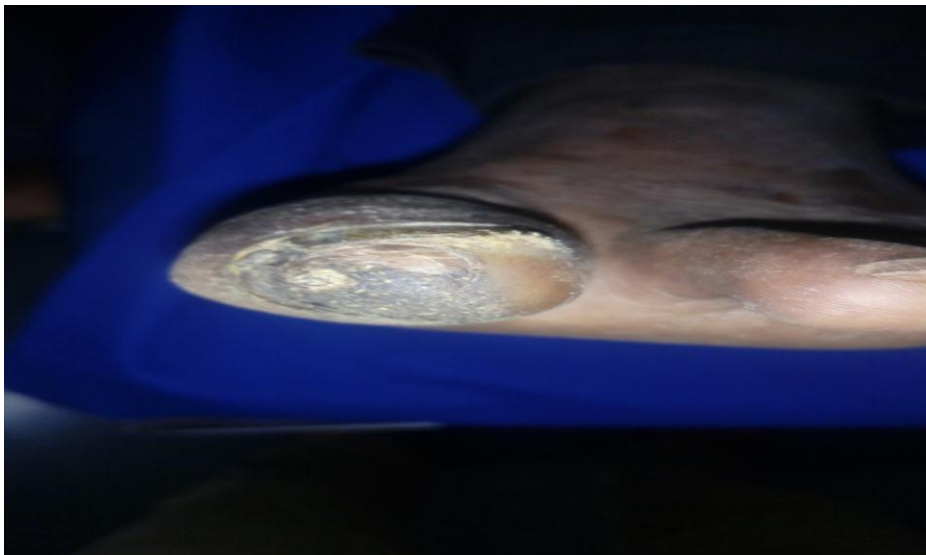


Figure 14: Case 4 non healing Arterial ulcer in right great toe healed ulcer.

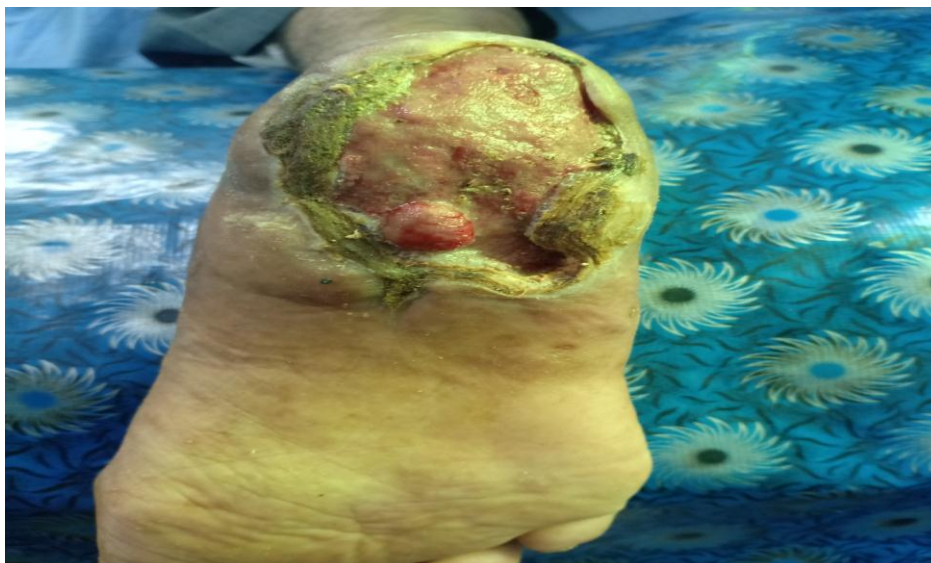


Figure 15: Case 5 non healing ulcer due to P.A.D, right diabetic foot- Dushtavrana.



Figure 16: Case 5 non healing ulcer due to P.A.D, right diabetic foot- Shuddha vrana.



Figure 17: Case 5 non healing ulcer due to P.A.D, right diabetic foot-healed ulcer.



Figure 18: Case 6 left foot Diabetic foot -P.A.D- Dushtavrana dorsal side.



Figure 19: Case 6 left foot Diabetic foot -P.A.D- Dushtavrana plantar side.



Figure 20: Case 6 left foot Diabetic foot -P.A.D- Shuddhavrana Rhuyamanavastha.



Figure 21: Case 6 left foot Diabetic foot -P.A.D- healed ulcer.

CONCLUSION

- 1) After wound debridement and reducing the septicaemia, *Ayurvediya vrana upakram* should be started.
- 2) *Pathya* helps in better outcome interms of wound healing and controlling DM.
- 3) *Triphala kwatha vrana dhavan* and *Triphala Avachurnan* helps in good wound debridement thus *vrana shodhana* and *ropana* can be attained simultaneously
- 4) *langhana*, *Rukshana*, *vatanulomana* normalised Hypertension, hyperglycaemia, reduces sepsis and inflammation.

REFERENCES

1. Acharya Yadavji Trikamji, Sushrut Samhita of Sushrut with the nibandha sangraha commentary of Shri Dalhanacharya and the Nyaya chandrika panjika of Shri Gayadasacharya on Nidansthana. Varanasi: Chaukhamba Orientalia, 200; 7: 108.
2. Dr Annamoreshwar kunte and Krishna Ramchandra Shastri Navse, Ashtana Hridya of Vagbhata with the commentaries: Sarvangasundara of Arundatta & Ayurved Rasayana of Hemadri. Varanasi: Chaukhamba Sanskrit Pratishthan, 1997; 538.
3. Dr Annamoreshwar kunte and Krishna Ramchandra Shastri Navse, Ashtana Hridya of Vagbhata with the commentaries: Sarvangasundara of Arundatta & Ayurved Rasayana of Hemadri. Varanasi: Chaukhamba Sanskrit Pratishthan, 1997; 216.
4. Acharya Yadavji Trikamji, Sushrut Samhita of Sushrut with the nibandha sangraha commentary of Shri Dalhanacharya and the Nyaya chandrika panjika of Shri Gayadasacharya on Nidansthana. Varanasi: Chaukhamba Orientalia, 2002; 397.
5. Acharya Yadavji Trikamji, Sushrut Samhita of Sushrut with the nibandha sangraha commentary of Shri Dalhanacharya and the Nyaya chandrika panjika of Shri Gayadasacharya on Nidansthana. Varanasi: Chaukhamba Orientalia, 2002; 454.
6. Acharya Yadavji Trikamji, Sushrut Samhita of Sushrut with the nibandha sangraha commentary of Shri Dalhanacharya and the Nyaya chandrika panjika of Shri Gayadasacharya on Nidansthana. Varanasi: Chaukhamba Orientalia, 2002; 7: 397.
7. Dr Annamoreshwar kunte and Krishna Ramchandra Shastri Navse, Ashtana Hridya of Vagbhata with the commentaries: Sarvangasundara of Arundatta & Ayurved Rasayana of Hemadri. Varanasi: Chaukhamba Sanskrit Pratishthan, 1997; 65.