

**Management of madhumehajvrana with special reference to diabetic foot from
Ayurvedic and Modern prospective**

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Abstract :

Madhumeha is a common problem that is tackled everyday by many healthcare workers throughout and it is rapidly increasing around the world. The economic, social and public health burden of its complications are enormous. Complications of Madhumeha produces surgical impacts like Chronic Balanitis, Carbuncle, Diabetic ulcer, Diabetic foot, Abscess , Emphysematous Cholecystitis, Emphysematous pyelonephritis, Necrotising fasciitis, Fournier's gangrene and fungal infections eg.candidiasis and mucormycosis. Such complications of diabetes are due to micro vascular changes involving the capillaries of retina, kidneys and peripheral nerves; macrovascular changes characterized by atherosclerotic lesions of the coronary and peripheral arterial circulation; diabetic neuropathy and infection in glucose laden tissue. Accelerating factors for development of such conditions in diabetes includes smoking, elevated cholesterol levels, obesity, high blood pressure and lack of regular exercise.

Amongst all most devastating complication of diabetes is Diabetic foot. In Shushrut Samhita, diabetic foot is related with 'MadhumehajVrana'. During its description Shushrut stated that the management of these vranas are Kashtasadhya. According to Shushrut ,meda and rakta along with other dosha and dushya lead to the formation of pramehapidaka which later if ignored converted to non healing wounds and also further specified that wounds over lower limbs are difficult to heal while the classic pathological triad of diabetic foot includes vascular disease, neuropathy and infection due to excess of sugar laden tissue.

Current treatment of its complications involves multidisciplinary team approach such as control of underlying disease and management of the wounds using debridement, different wound dressings like VAC dressings which redistribute pressure off the wound or local applications of various formulations like as described in texts of Ayurveda. Most of the difficult wounds can be completely cured ending up with skin grafting once the diabetes of the patient is well controlled.

Key words : Diabetic foot , Ropan tail , VAC dressing.

Introduction :

Madhumeha is a common problem that is tackled everyday by many healthcare workers throughout and it is rapidly increasing around the world. Complications of Madhumeha produces surgical impacts like Chronic Balanitis, Carbuncle, Diabetic ulcer, Diabetic foot, Abscess, Emphysematous Cholecystitis, Emphysematous pyelonephritis, Necrotising fasciitis, Fournier's gangrene and fungal infections eg. candidiasis and mucormycosis;

Complications of diabetes are due to Micro vascular changes involving the capillaries of retina, kidneys and peripheral nerves and Macro vascular changes are due to atheroma formation; diabetic neuropathy and infection in glucose Leiden tissue.

In **Shushrut Samhita**, diabetic foot is related with 'MadhumehajVrana' and Acharya Shushrut stated that the management of these vranas are Kashtasadhya.

Samprapti = Meda + Rakta + Dosha + Dushya = "PramehaPidaka"

if ignored = Non Healing wounds. Also further specified that wounds over lower limbs are difficult to heal.

Case study :

- A. A 56 years old male patient presented with uncontrolled diabetes mellitus on irregular anti hyperglycaemic medications with h/o post traumatic non healing ulcer over right foot more than 10 years. Patient was presented with wet gangrene associated with maggots and foul smell over right foot. No major systemic complains were noted. This patient was taken to study the effect of shodhan tail on diabetic foot wound.
- B. Another Patient of the age 60 years with the same history was considered and taken to assess the effect of VAC dressing.

Lab investigations of both the patients were compared

➤	➤	➤ Patient A	➤ Patient B
➤	➤ CBC	12/6900/3.98(n54%, l 40%)	13/7500/2.89(n67%, l 34%)
➤	➤ ESR	3	7
➤	➤ BSL(R)	➤ 275	➤ 280
➤	➤ BSL(F)	➤ 175	➤ 168
➤	➤ BSL(PP)	➤ 300	➤ 315
➤	➤ HbA1c	➤ 8	➤ 7.6

X ray left foot was within normal limits in both the cases.

Materials and Methods:

A) **Bahyachikitsa** :Terpentine for 1st day. And normal saline for cleaning of terpentine. Then wound dressing was done with Ropan tail= Each 10ml Sidhha Tail. Contents = Triphala -0.937gm, Haridra(embelia officinalis)-0.625gm, Kadunimba(azadiractaindica)-.625gm, Kadechirayit(swertiachirata)-0.625gm, Ushir(vetiveriazizanoides)-0.312gm, Base= Til tail(sesame oil)-10ml -**Bhav Prakash**.

B) **Abhyantarchikitsa**= Triphalaguggulu 2tds, Aroghyavardhini 2tds, Tapyadiloha 2tds.

Methodology:

Physician opinion taken and antihyperglycemic treatment along with diabetic diet was started to both group patients. The wound of diabetic foot of both A and B patients was initially treated with turpentine oil to remove the maggots in first day followed by daily vranadhavan with normal saline; out of that In **Patient A application of Ropan tail with gauze was done.**



Fig.1.1 Wound with maggots before and after cleaning with turpentine oil

Observation :

Disluffing was noted from the 4th day of dressing. Daily dressing was continued with the Ropan tail for 2 weeks. Formation of Granulation tissue was observed From 1st week onwards with minimal wound sluff. Fig.1.2. Wound was healthy without any foul smell and discharge at the end of 2nd week.



Fig. 1.2 Wound after 7th and 14th day of ropan tail application

After Ropan tail application till 3 weeks discharge and slough was reduced significantly. Then as the surface area of the wound was large skin grafting was done with the partial thickness graft taken from anterior aspect of the left thigh after 3rd week. Complete wound healing was observed by 6th week (fig 1.3)

Discussion :

Maggots over the wound itself helps to remove sluff from the wound by **engulfing debris and putrefied tissue**. Contents of **Ropan tail** include tikta ruksha and ushna gunatmak dravya having **krumighna, vishghna activity** which helps to get rid off bacterial infections. **Ruksha guna** is responsible for absorption of the discharge from diabetic wound causing **shoshan of vikrut vransrav** from dushya such as kleda, meda. **Siddha Tail** helps to penetrate the ropan drvyas in **sukshma srotasas** and produces **shodhan** as well as **ropan** effect in the wound.



Fig.1.3 Healing of the wound by ropan tail followed by skin grafting

Now in case of patient B **Negative pressure wound therapy (NPWT)** has been applied.

In this therapy, **Vaccum** draws out the fluid from wounds to make them dry by reducing excessive discharge hence reducing soiling and wetting the dressings frequently. It **accelerates wound healing** by **increasing local blood flow, formation of granulation tissue and decreased bacterial colonization** that means they help to transfer the wound from gas gangrene to wet gangrene, from wet gangrene to dry gangrene by maintaining aeration within the wound.



Fig.1.4 Application of sealed with occlusive dressing

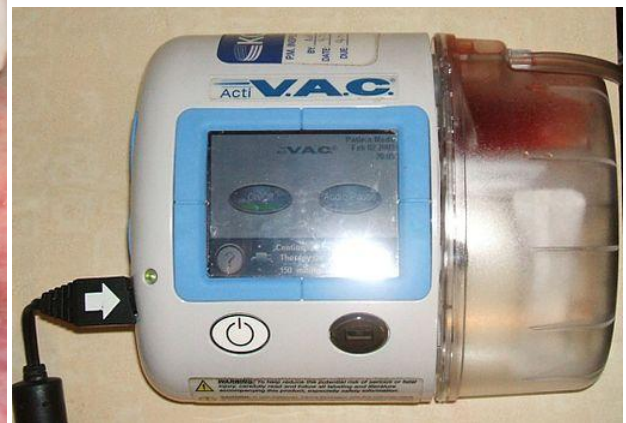


fig. 1.5 VAC MACHINE (Pressure = 100

to 150 mmhg whichintented to contain vaccum at wound sitegives drainage to the wound

Advantages:

This **VAC dressing** helps in faster wound healing, decreases overall hospitalization and avoids the additional morbidity of chronic wounds. May be applied continuously and intermittently depending upon the type of wound. Dressing can be changed two to three times per week.

C.I. = Malignancy, untreated osteomyelitis, non enteric and unexplored fistulas, necrotic tissue with escher formation.



Fig. 1.6 Slough over the diabetic wound

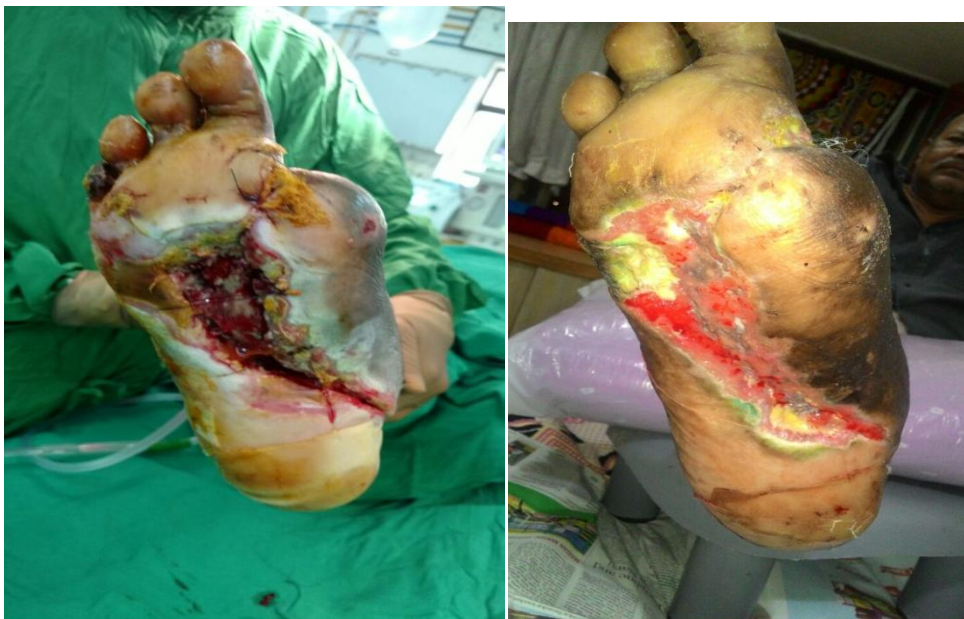


Fig. 1.7 Healing of the wound by VAC dressing followed by skin grafting

Some cases of complicated diabetic foot are mentioned below,



Fid. 1.7 Debridment of diabetic foot wound with escher

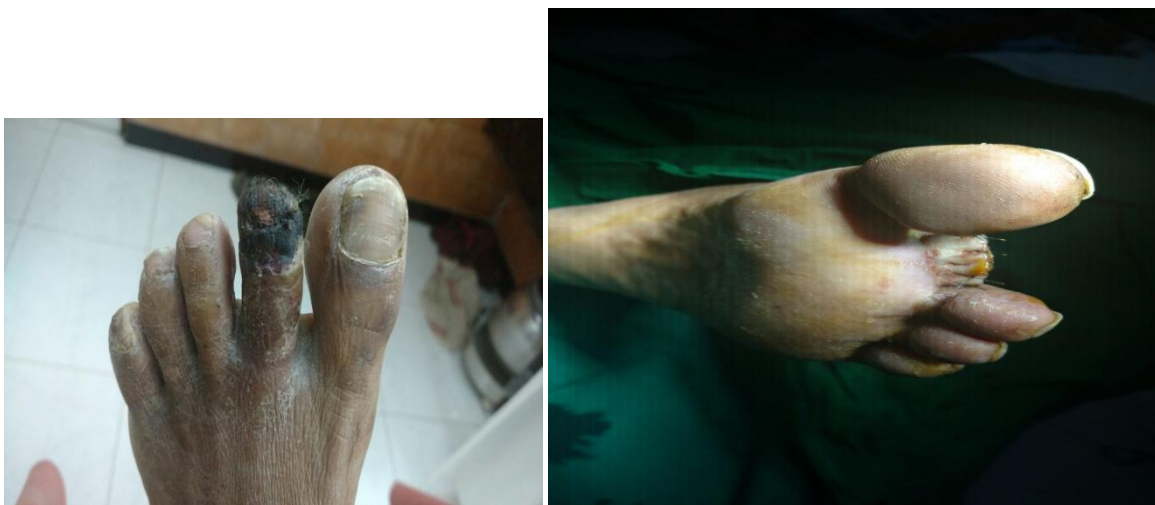


Fig. 1.8 Amputation in case of Diabetic Gangrene

Conclusion :

Although modern techniques play key role in healing complicated diabetic wounds; they have high cost effectivity and require proper maintenance of vacuum pressure all the time within the wound. Effect of Ropan tail gives both benefits of shodhan and ropan to the wound. It is less cost effective and it Can be applied like a normal wound dressing without requirement of any specific devices.

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