

Case Report

An Integrated Approach in the Treatment of Diabetic Hand Ulcer: A Case Report

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ABSTRACT

In Diabetes mellitus, multi organs are affected and which comes with complications such as diabetic retinopathy, nephropathy, and neuropathy in many cases. The cause of diabetic ulcer is due to glucose laden tissue, cell ischaemia polyneuropathy or peripheral neuritis. Hand complications of diabetes mellitus are rare compared to foot complications occurring in a ratio of 1:20. There is difficult for diabetic wound healing due to 3 causes, Diabetic neuropathy, diabetic vasculopathy and glucose laden cells vulnerable to infection. We present here a case study with a diabetic hand ulcer by applying wound healing methods mentioned in Ayurved text.

A 56 year old male patient presented with ulcer on right hand since 5 days. Patient was known case of Type-II Diabetes Mellitus since 12 to 15 years and hypertension since 8 years. Ulcer washed with panchavalkal kashaya (decoction) and wound was cleaned with dry gauge piece and vimalapana (gentle massage on edge of ulcer with thumbs of both hands) with jatyadi tail (oil) gently for 3 to 5 minutes and wound covered with pichu (oil soaked sterile gauge piece) soaked with jatyadi tail once a day for 60 days. Granulation tissues seen in wound from 14th day of treatment and Wound completely healed in 60 days. In present case Vimalapana and pichu with jatyadi tails is very good for healing the Diabetic ulcer and avoid the chance of skin grafting.

Key words: Panchavalkal kashaya, Vimalapana, Pichu, Jatyadi tail, Diabetic hand ulcer

INTRODUCTION

In Diabetes mellitus, multi organs are affected. In many cases, complications such as diabetic retinopathy, nephropathy and neuropathy and diabetic ulcer. The causes of diabetic ulcer are glucose laden tissue, cell ischaemia due to diabetic arthrosclerosis and diabetic polyneuropathy or peripheral neuritis. ^[1] Hand infections have been reported in patients living with diabetes, causing significant morbidity from amputation and functional disability or mortality from sepsis. ^[2] Minor trauma on diabetic patient hand may proceed to gangrene and fulminant sepsis. ^[3] In fact, diabetic hand complication has not been considered as a specific complication of

diabetes. No precise definition for diabetic hand ulcer can be found in the literature. Papanas and Maltezos suggested that it could be defined as a syndrome of musculoskeletal manifestations of the hand in diabetic patients. ^[4] Hand ulcer with infection in diabetic patients was first described in the USA in 1977. ^[5] Hand complications of diabetes mellitus are rare compared to foot complications occurring in a ratio of 1:20. ^[6] There is difficult for diabetic wound healing due to 3 causes, Diabetic neuropathy, diabetic vasculopathy and glucose laden cells vulnerable to infection. We present here a case study with a diabetic hand ulcer by applying wound healing methods mentioned in Ayurved text.

CASE REPORT

A 56 year old male patient presented with ulcer on right hand since 5 days. Patient was known case of Type-II Diabetes Mellitus since 12 to 15 years and hypertension since 8 years. Patient was on treatment of diabetes mellitus with injection insulin (H.Mixtard) 14 0-6 units and Tab. Amlod AT 10D for hypertension.

Patient reported to our hospital for wound care with the surgical history of debridement at various places of right hand and forearm (Dorsum of hand, ventral region of forearm and palm) for having cellulites complicated to gangrenous changes due to the presence of uncontrolled diabetes mellitus. On further follow up patient was advised to undergo skin grafting after few days by surgeon. But patient refused for the skin grafting.

On examination patient was afebrile, pulse was 78 bpm, blood pressure was

130/70 mmHg. Local examination revealed swelling in right forearm, oedema, redness, local rise in temperature, mild tenderness, 6×4 cm wound on Dorsum of right hand, 5×3cm wound on ventral and 3×1 cm wound on palm of right forearm. Bilateral Radial pulse was palpable. There was Gross slough, discharge and no granulation tissue present. After examination patient subjected to Ayurvedic line of management.

TREATMENT METHOD:-

Ulcer (hand ulcer) was washed with panchavalkal kashaya (Decoction) and then cleaned with dry gauge piece. This was followed by vimalapana karma (gentle massage on the edge of ulcer with thumbs of both hands) around wound with jatyadi tail for 3-5 minutes and then wound covered with pichu (oil soaked sterile gauze piece with jatyadi tail).

Ulcer Assessment chart:

Date	Location	Size (in cm)	Shape	Edges	Exudates type	Exudates amount	Skin color around the wound	Peripheral tissue edema	Granulation tissue	epithelialization
1 st day	Dorsum of right hand	6×4	Quadrangular	Distinct outer line clearly visible & attached with base	Yellowish green	profuse	Red	Gross edema	Absent	Absent
	Anterior (ventral) of right forearm	5×3								
	Palm of right hand	3×1								
7 th day	Dorsum of right hand	6×4	Quadrangular	Distinct outer line clearly visible & attached with base	Yellowish green	scanty	Pink	Moderate Edema	Absent	Absent
	Anterior of right forearm	5×3								
	Palm of right hand	3×1								
14 th day	Dorsum of right hand	5×4	Quadrangular	Distinct outer line clearly visible & attached with base	Yellowish green	profuse	Pink	Moderate Edema	Present	Absent
	Anterior of right forearm	4×3								
	Palm of right hand	2×1								
21 st day	Dorsum of right hand	5×4	Quadrangular	Sloping	Thin serous	scanty	Pink	Mild Edema	Present	Present
	Anterior of right forearm	4×3								
	Palm of right hand	1.5×1								
27 th day	Dorsum of right hand	4×3.1	Quadrangular	Sloping	Thin serous	scanty	Pink	Mild Edema	Present	present
	Anterior of right forearm	3×2								
	Palm of right hand	1.5×1								

35 th day	Dorsum of right hand	3×2.1	Quadrangular	Sloping	Thin serous	scanty	Pink	Mild Edema	Present	present
	Anterior of right forearm	2×1								
	Palm of right hand	1×0.5								
42 nd day	Dorsum of right hand	2.8×2	Quadrangular	Sloping	No discharge	absent	Pink	No edema	Present	present
	Anterior of right forearm	1.5×1								
	Palm of right hand	0.5×0.3								
49 th day	Dorsum of right hand	1.2×1	Quadrangular	Sloping	No discharge	absent	Pink	No edema	present	present
	Anterior of right forearm	1×0.5								
	Palm of right hand	Healed								
56 th day	Dorsum of right hand	0.5×0.5	Quadrangular	Sloping	No discharge	absent	Pink	No edema	present	present
	Anterior of right forearm	0.5×0.2								
	Palm of right hand	Healed								
60 th day	Dorsum of right hand	Healed	Healed	Healed	healed	healed	Healed	Healed	healed	healed
	Anterior of right forearm	Healed								
	Palm of right hand	Healed								

RESULTS

Ulcer cleaning with panchavalkal kashaya and vimalapana karma (massage with thumbs of both hands) and pichu with Jatyadi taila daily. Weekly assessment was done. Granulation tissues seen in 14th day of treatment. Slough, peripheral oedema reduced on 21st day of treatment. Epithelialisation also seen on 21st day of treatment and ulcer on right palm was healed completely in 49 days and all ulcers were healed in 2 months.

During treatment



During treatment



During treatment



Before treatment



After treatment



DISCUSSION

Diabetic hand ulcer is complications associated with musculoskeletal manifestations of the hand and limited joint mobility, Dupuytren's contraction and trigger fingers. Diabetic hand ulcer is rare than diabetic foot ulcer. Diabetic hand ulcer is challenging for management. In present case Vimalapana and pichu with jatyadi tail is very good for healing the Diabetic ulcer and avoids the chance of skin grafting.

All the signs and symptoms of this hand ulcer can be co-related with signs and symptoms of dusta vrana described in Ayurved text Sushruta samhita. Diabetic Patient becomes fear from skin grafting due to uncertainty of reception of skin graft and creation of another ulcer. There may be

possibility of secondary infection associated with skin grafting. This method of treatment may be fruitful to those patients having non healing diabetic ulcer or feared from skin grafting.

PANCHAVALKALA KASHAYA

Panchavalkala – it contains Bark of Vata (Ficus bengalensis), Udumbera(Ficus racemosa), Ashwatha (Ficus religiosa), Parishat (Thespesia populnea) and Plaksha (Ficus lacor).^[7]

These are Shita veerya, Ruksha guna, Kashaya rasa, katu vipaka, Pitta Kaphagna properties. These are Varunya(ulcer healing property) and helpful in ulcer healing . Its quality is very useful in Vrunaropana (ulcer healing), when used externally^[8] by chemical debridement.

Panchavalkal kashaya is prepared by mixing panchavalkal bharada (coarse powder) 1 part and water 4 parts and reduced up to ¼th part by boiling.

JATYADI TAILA [9]

Jatyadi Taila is used in the treatment of Dusta vrana (chronic wound) which are associated with thick slough bed, bad odour, discharge and painful wounds. Unique property of this taila (oil) is that it is both vrana shodana (purification of wound) and at the same time it is vrana ropaka (wound healing). So, it cleanses the wound, debrides the slough and helps in neo-vascularization i.e granulation tissue formation their by heals the wounds.

VIMALAPANA KARMA: [10]

Vimalapana karma may contribute paving way for healthy granulation tissue and helps in healing of Vrana (ulcer) in due course of time

This procedure

- Helps in reduction of pain by removing the local toxins.
- Improves the micro & macro circulation.
- Improves the anoxic state of the tissue.
- Helps in prevention of tissue destruction by improving circulation.

CONCLUSION

In present case Vimalapana and Pichu with jatyadi tail is very good for healing the Diabetic ulcer and avoids the chance of skin grafting.

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