Obviating surgical amputation of diabetic gangrene through homoeopathy – A case report

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Abstract

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Case Summary: A 70-year-old woman presented with diabetic gangrene of her right leg and foot since 4 months. The patient complained of swelling and blackish discoloration of the right foot and leg with offensive discharging ulcers on the first and third toes. She was diagnosed with diabetic foot gangrene and advised to undergo surgical amputation of the foot and debridement of the leg by a local surgeon within 4–5 days to stop the spread of gangrene. After an unsatisfactory outcome, the patient turned to homoeopathy to avoid amputation. After a detailed case-taking, analysis and repertorisation, Arsenic album 30C was prescribed. Within 3–4 months, there was an improvement in the limb without any surgical intervention. Calendula officinalis Q was used for cleaning the wound and regular dressing. This case depicts the importance of individualised homoeopathic medicine in treating gangrene effectively, thus obviating amputation.

Acknowledgments and Source of Funding

This case report is available in Indian Journal of Research in Homoeopathy: https://www.ijrh.org/journal/vol17/iss1/6
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Abstract

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Keywords: Amputation, Arsenic album, Fasting blood sugar, Gangrene, Homoeopathy, Post prandial blood sugar

Introduction

Gangrene is the localised death of tissue, caused by inadequate blood supply, which may result from injury, infection and diabetes mellitus. Diabetics possess three distinct factors, which make their limbs liable to gangrene formation. First, sugar-laden tissues lower their resistance to infection. The second factor is a liability to the formation of atheroma in the arteries. In the lower limb, the arterial occlusive disease involves the popliteal artery and its branches down to the pedal arches. The third factor is diabetic neuropathy, which impairs sensation and lower limbs get more prone to injuries and infections. As a result of this, the pressure areas of the foot become complicated by trophic ulcers.

Both dry and wet gangrene are seen in diabetics. In dry gangrene, there is a classic line of demarcation between the necrotic and normal tissue with little or no discharge. Infection plays a major role in wet gangrene, which spreads rapidly and is often lethal. In wet gangrene, trophic ulcers are seen at the pressure sites usually at the metatarsal heads, particularly over the first or third metatarsal head.

According to the International Diabetes Federation, in 2015, approximately 415 million people were suffering from diabetes worldwide, and this number is expected to reach 640 million by the year 2040. Globally, 1 million amputations occur every year; approximately one amputation every 30 s. It is estimated that the total number of amputees will reach 435 million by 2030; of these, over 54% will be affected only by peripheral vascular diseases, especially diabetes mellitus. Moreover, the mortalities among people who undergo amputation are very high. In India, 69.2 million people are affected with diabetes, showing an overall prevalence of 9.3% with the loss of a lower extremity. A community-based study states for every 20 people, a lower limb is lost due to diabetes and around 45,000 lower limbs are amputated each year.

Homoeopathic literature provides a good scope for treating cases of gangrene and preventing surgical amputation. Here, we present a case of diabetic wet gangrene, treated with an individualised homoeopathic approach. Calendula officinalis
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Q was used for cleaning the wound and regular dressing was done. No antiseptics or external applications (ointments) were used for dressing. This report adds to the existing evidence of homoeopathic management of diabetic gangrene.

**Case Report**

**Patient history**

A 70-year-old woman presented with diabetic gangrene of the right leg and foot since 4 months. She was a known case of diabetes since 20 years and was on oral hypoglycaemic medicines. The patient complained of swelling and blackish discoloration of the right foot and leg with an ulcer on the first and third toes. Complaints had started with an ulcer over the big toe, and gradually, it had spread upwards with swelling and blackish discoloration of the right foot and leg. The condition progressively deteriorated over a month with reduced vascularity and blister over the medial aspect of the right lower leg. She was advised to undergo surgical amputation of the foot and debridement of the leg by a local surgeon within 4–5 days to stop the spread of gangrene. There was a putrid, watery, offensive discharge from the ulcer and a burning sensation (as of hot coals) in the foot and leg, especially the big toe, which was worse during the night.

**Past history**

She had a history of similar complaints in the left foot 3 years back, for which the patient underwent surgical debridement of the foot and big toe amputation.

**Physical generals**

Her appetite was more than usual, and she had a desire for sweets and meat. She had an extreme thirst for water at frequent intervals and was chilly. She could not tolerate cold air/cold weather. Her bowels were regular and satisfactory. She had an increased frequency of micturition, which could also be a result of raised blood glucose. Her sleep was disturbed at night due to her present complaints.

**Mental generals**

Mentally, the patient was restless, could not sit in one place for a long time and changed places or walk around to stay calm. She had a feeling that she was left alone, and no one was there to look after her. She had expressed that it was better to die than live with this disease, as there was no relief even after taking treatment at different hospitals.

**Clinical findings**

On inspection, the skin appeared black, thin and shiny with a loss of hair and there was no clear line of demarcation. Circular, punched-out ulcers of the big and third toes, with a blister on the lower medial aspect of the right leg and offensive discharge were noted [Figure 1]. The left big toe was not there due to prior amputation, and no other abnormal signs were noted in the left lower limb.

On palpation, swelling of the right leg and foot with pitting oedema was noted. The ulcer was located on the ventral aspect of the first and third toes, extending deep up to the muscles, with a punched-out edge, floor was exudated with purulent discharge, base indurated, fixed and non-tender. The surrounding skin of the ulcer was callous-like and thickened. The posterior tibial and dorsalis pedis pulses were not palpable.

**Diagnostic assessment**

Her laboratory investigations revealed high blood glucose parameters: Fasting blood sugar was 181 mg/dL and post-prandial blood sugar was 272 mg/dL, glycosylated haemoglobin was 9.2% on July 09, 2021 and above-mentioned clinical findings which were suggestive of diabetic wet gangrene with a trophic ulcer.

**Totality of Symptoms**

The totality included the following symptoms:

- Despair of recovery
- Restlessness drives her from place to place.
- Feels that she is left alone.
- Swelling and blackish discoloration of foot and leg
- Watery, offensive discharge from the ulcer
- Sensation of burning from coals more during the night, in sleep
- Modalities: worse at night, from getting feet wet
- Desires: sweets, meat (moderate intensity)
- Chilly patient.

**Selection of remedy**

This case was repertorised by Hompath classic M.D version 8 software using complete repertory.\(^9\) Considering the repertorial result [Figure 2] and referring to materia medica, *Arsenic album* was selected as similimum.

**Prescription and follow-up**

On the day of the visit, *Arsenic album* 30C was prescribed, to be taken thrice daily for 2 days and followed by a placebo for 4 months [Table 1]. During this period, the wound steadily healed, and no other alternative treatment was given except *Calendula* Q for cleaning the wound.

**Discussion**

This case report describes the effectiveness of homoeopathic treatment in diabetic gangrene. The patient had sought homoeopathic treatment to avoid amputation. She continued her regular oral hypoglycaemic medication during treatment. She was advised to stop all other topical and oral medications before treatment and to avoid carbohydrate-rich foods.

Based on the totality of symptoms, the case was analysed. *Arsenic album* was selected as similimum based on marked restlessness which drives her from place to place, despair of recovery and forsaken feeling. It is also noted that *Arsenic* is one of the main remedies for burning pains at night, offensive discharging ulcers and gangrene.\(^9\)

The gangrene was healed within 4 months and improvement in other general symptoms was also observed during the course of the treatment. After assessing the case with the Modified
Ankerela, et al.: A case of diabetic gangrene

Table 1: Observations and prescriptions

<table>
<thead>
<tr>
<th>Date</th>
<th>Observations</th>
<th>Prescription</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 July, 2021</td>
<td>FBS - 181 mg/dL, PPBS - 272 mg/dL, HbA1c - 9.2%, Dorsalis pedis and posterior tibial pulse not felt</td>
<td>Arsenic album 30 thrice daily for 2 days</td>
</tr>
<tr>
<td>13 July, 2021</td>
<td>The skin of right leg and foot has become dry and started peeling No blister Offensiveness of discharge and burning pain has reduced Blackish discoloration and swelling persist</td>
<td>Placebo twice daily for 5 days</td>
</tr>
<tr>
<td>18 July, 2021</td>
<td>Swelling and burning pain in foot and leg reduced Blackish discoloration in the proximal part of leg reduced Ulcer over big toe has reduced in its size Restlessness reduced Posterior tibial and dorsalis pedis pulse-feeble</td>
<td>Placebo twice daily for 1 month</td>
</tr>
<tr>
<td>19 August, 2021</td>
<td>Normal appearance of skin in proximal part of leg. Blackish discoloration persists in lower part of leg and foot Further reduction in size of the ulcer was seen [Figure 3]</td>
<td>Placebo twice daily for 20 days</td>
</tr>
<tr>
<td>9 September, 2021</td>
<td>The big toe and third toe ulcer improvement is seen No pain or burning sensation is complained FBS - 90 mg/dL, PPBS - 119 mg/dL</td>
<td>Placebo twice daily for 20 days</td>
</tr>
<tr>
<td>30 September, 2021</td>
<td>Normal appearance of skin in proximal part and distal part (partial) of the right leg Big toe and 3rd toe ulcers improved further Posterior tibial pulse - normal Dorsalis pedis pulse - slightly feeble</td>
<td>Placebo twice daily for 1 month</td>
</tr>
<tr>
<td>27 October, 2021</td>
<td>Normal appearance of skin on both upper and lower part of the leg 3rd toe ulceration healed completely Big toe ulcer almost closed with scab formation Pedal pulses - normal [Figure 4]</td>
<td>Placebo twice daily for 15 days</td>
</tr>
<tr>
<td>10 November, 2021</td>
<td>No new complaints HbA1c - 7.2%, RBS - 160 mg/dL</td>
<td>Placebo twice daily for 1 month</td>
</tr>
<tr>
<td>10 December, 2021</td>
<td>The patient is under regular observation FBS - 92 mg/dL, PPBS - 136 mg/dL</td>
<td>Placebo twice daily for 1 month</td>
</tr>
</tbody>
</table>

FBS: Fasting blood sugar, PPBS: Postprandial blood sugar, HbA1c: Glycated haemoglobin, RBS: Random blood sugar
Table 2: Assessment of outcome with Modified Naranjo criteria

<table>
<thead>
<tr>
<th>Scoring parameters</th>
<th>Yes</th>
<th>No</th>
<th>Not sure or N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was there an improvement in the main symptom or condition for which the homeopathic medicine was prescribed?</td>
<td>+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did the clinical improvement occur within a plausible time frame relative to the medicine intake?</td>
<td>+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was there homeopathic aggravation of symptoms?</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did the effect encompass more than the main symptom or condition (i.e., were other symptoms not related to the main presenting complaint ultimately improved or changed)?</td>
<td>+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did overall well-being improve?</td>
<td>+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direction of cure: Did some symptoms improve in the opposite order of the development of symptoms of the disease?</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direction of cure: Did at least one of the following aspects apply to the order of improvement of symptoms</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From organs of more importance to those of less importance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From deeper to more superficial aspects of the individual</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From the top downwards</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did ‘old symptoms’ (defined as non-seasonal and non-cyclical symptoms that were previously thought to have resolved) reappear temporarily during the course of improvement?</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there alternatives (other than the medicine) that with a high probability could have produced the improvement? (consider known course of disease, other forms of treatment and other clinically relevant interventions)</td>
<td>+1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was the health improvement confirmed by any objective evidence? (e.g., investigations and clinical examination)</td>
<td>+2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did repeat dosing, if conducted, create similar clinical improvement?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total score – 08

Figure 3: Photographs of gangrene case (a-d) during treatment: 19 August, 2021

Figure 4: Photographs of gangrene case (a-d) after treatment: 27 October, 2021
Naranjo criteria, the total score was 08 [Table 2].\textsuperscript{[10]} It was suggestive of a definite association between the medicine and outcome.

The above case shows the usefulness of homoeopathic treatment in the management of diabetic wet gangrene and preservation of the limb from amputation.

In previously reported cases, surgical amputation of gangrene of the foot was prevented with homoeopathy. A similar case of gangrene has been reported, treated with \textit{Secale cornutum} and had improved significantly.\textsuperscript{[6]}

Mahesh et al. reported five cases treated with individualised homoeopathic medicine and regular dressing with \textit{Calendula Q}. In all the patients, marked healing of gangrene was observed. Out of these five cases, in one case, \textit{Arsenicum album} 12c was prescribed.\textsuperscript{[4]} Another case report also reports \textit{Arsenicum album} initiated improvement by stopping the spread of gangrene.\textsuperscript{[7]} The above studies suggest that homoeopathic medicines can be used for treating gangrene cases.

The limitation of this case report is the inability to keep a record of the other investigations such as lipid profile, urea, creatinine and colour doppler, which could have been valuable indicators of the overall health condition of the patient.

**Conclusion**

The case report shows that the surgical case of diabetic gangrene can be managed well with homoeopathic treatment. We can see the potential of homoeopathic remedies in treating such difficult cases. In this case, the gangrenous part was saved from amputation within a short period. Good control of blood glucose levels was noted along with improvement in the general condition of the patient. Thus, homoeopathy may be useful in treating lifestyle diseases like diabetes mellitus, especially where surgical intervention like amputation becomes the primary choice of treatment. In the future, large sample size-based, randomised and controlled studies could confirm the effectiveness of homoeopathy in such cases.

**Declaration of patient consent**

The patient has given her consent for reporting her clinical information in the journal. The patient understands that his name and initials will not be published, and due efforts will be made to conceal her identity, but anonymity cannot be guaranteed.

**Conflicts of interest**

None declared.

**References**

Éviter l’amputation chirurgicale de la gangrène diabétique grâce à l’hématopatie – Un rapport de cas

Introduction: La gangrène est définie comme la décomposition ou la mort d’un organe ou d’un tissu en raison d’un apport sanguin compromis. C’est une condition périlleuse et mortelle survenant le plus souvent en raison du diabète. En règle générale, les personnes atteintes de diabète ont un risque significativement accru de gangrène des membres inférieurs entraînant une amputation.

Résumé du cas: Une femme de 70 ans présente une gangrène diabétique de la jambe et du pied droits depuis 4 mois. Le patient s’est plaint d’un gonflement et d’une décoloration noircière du pied et de la jambe droits avec des ulcérations offensives sur les orteils. On lui a diagnostiqué une gangrène du pied diabétique et on lui a conseillé de subir une amputation chirurgicale du pied et un débridement de la jambe par un chirurgien local dans les 4 à 5 jours pour arrêter la propagation de la gangrène. Après des résultats insatisfaisants, le patient s’est tourné vers l’hématopatie pour éviter l’amputation. Après une prise de cas détaillée, une analyse et une répertorisation, Arsenic album 30C a été prescrit. En 3-4 mois, il y a eu une amélioration du membre sans aucune intervention chirurgicale. Calendula officinalis Q a été utilisé pour le nettoyage de la plaie et un pansement régulier. Ce cas illustre l’importance de la médecine homéopathique individualisée dans le traitement efficace de la gangrène, évitant ainsi l’amputation.

Verhinderung einer chirurgischen Amputation bei diabetischem Gangrän durch Homöopathie - ein Fallbericht

Einleitung: Gangrän ist definiert als der Zerfall oder Tod eines Organs oder Gewebes aufgrund einer beeinträchtigten Blutversorgung. Es handelt sich um einen gefährlichen und tödlichen Zustand, der am häufigsten durch Diabetes verursacht wird. Im Allgemeinen haben Menschen mit Diabetes ein deutlich erhöhtes Risiko für eine Gangrän der unteren Extremitäten, die zu einer Amputation führt.

Obviar la amputación quirúrgica de la gangrena diabética a través de la homeopatía - Un informe de caso

Introducción: La gangrena se define como la descomposición o muerte de un órgano o tejido debido a un suministro de sangre comprometido. Es una condición peligrosa y fatal que ocurre más comúnmente debido a la diabetes. En general, las personas con diabetes tienen un riesgo significativamente mayor de gangrena de las extremidades inferiores que conduce a la amputación.

Resumen del caso: Mujer de 70 años que presentó gangrena diabética de la pierna derecha y el pie desde hace 4 meses. El paciente se quejó de hinchazón y decoloración negruzca del pie derecho y la pierna con úlceras ofensivas de descarga en el primer y tercer dedo del pie. Le diagnosticaron gangrena del pie diabético y se le aconsejó que se sometiera a una amputación quirúrgica del pie y al desbridamiento de la pierna por un cirujano local dentro de los 4-5 días para detener la propagación de la gangrena. Después de un resultado insatisfactorio, el paciente recurrió a la homeopatía para evitar la amputación. Después de una toma de casos detallada, análisis y repertorización, se prescribió Arsenic album 30C. Dentro de 3-4 meses, hubo una mejoría en la extremidad sin ninguna intervención quirúrgica. Calendula officinalis Q se utilizó para limpiar la herida y el vendaje regular. Este caso describe la importancia de la medicina homeopática individualizada en el tratamiento eficaz de la gangrena, evitando así la amputación.