A case of type 2 diabetes mellitus treated with *Momordica charantia*

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Abstract

Diabetes mellitus is among the most common disorder in developed and developing countries, and the disease is increasing rapidly in most parts of the world. *Momordica charantia* (*M. charantia*), commonly referred to as bitter gourd, Karela and balsam pear. Its fruit is also used for the treatment of diabetes and related conditions in the indigenous populations of Asia, South America, India and East Africa.

Keywords: *Momordica charantia*, Hypoglycaemic agents, diabetes, bitter melon, insulin

Introduction

*M. Charantia* (bitter melon or bitter gourd) is a flowering vine in the family Cucurbitaceae. It is a tropical plant that is widely cultivated in Asia, India, East Africa, and South America. *Momordica charantia* (*M. charantia*), also known as bitter melon, karela, balsam pear, or bitter gourd, is a popular plant used for the treating of diabetes-related conditions. Its fruit has a distinguishing bitter taste, which is more pronounced as it ripens, hence the name bitter melon or bitter gourd.

Antidiabetic effect of Momordica Charantia

*M. charantia* and its various extracts and components are believed to exert their hypoglycemic effects via different physiological, pharmacological and biochemical modes. The possible modes of the hypoglycemic actions of *M. charantia* and its various extracts and compounds are its hypoglycemic effect, stimulation of peripheral and skeletal muscle glucose utilisation, inhibition of intestinal glucose uptake, inhibition of adipocyte differentiation, suppression of key gluconeogenic enzymes, stimulation of key enzyme of HMP pathway, and preservation of islet β cells and their functions.

*M. charantia*, its extracts and isolated components are believed to exert their hypoglycaemic effects via different physiological and biochemical processes. These include insulin secretagogue like effect, stimulation of skeletal muscle and peripheral cell glucose utilization, inhibition of intestinal glucose uptake, inhibition of adipocyte differentiation, suppression of key gluconeogenic enzymes, stimulation of key enzymes, HMP pathway and preservation of pancreatic islet cells and their functions.

A Case of type 2 Diabetes Mellitus

A Female aged 58yrs presented the following complaints.

Presenting Complaint

K/C/O DM since 5yrs. Weakness since 5yrs. also complaints of increased urination and burning in urethra after urination. Drowsiness on mild exertion. Dryness of mouth. Pain in calf muscles since 1month.cramping type of pain.

Past History

Dengue at 47yrs, No h/o HTN

Treatment History

Was under allopathy treatment for Diabetes
Personal History
Born and brought up at Chennai. Mixed diet. No addictions.

Family History
Father: DM
Mother: Bronchial asthma

Menstrual History
Menarche at 15yrs
Menopause at 48yrs

Obstetric History
G₁P₁L₁A₀ Normal vaginal delivery.

Life Space Investigation
Patient hails from a middle class family. Studied till 12th std. got married at the age of 25yrs. has 1 daughter.

Mental Generals
Calm and composed. Does not speak much.

Physical Generals
Appetite: Good.
Thirst: Increased.
Desires: Nothing Specific
Stool: once a day. No associated complaints
Urine: 5-6times a day
Sleep: Good

Follow Up Chart

<table>
<thead>
<tr>
<th>S. No</th>
<th>Date</th>
<th>Symptoms &amp; Investigations</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15/2/2020</td>
<td>Weakness reduced. Burning in urethra persists</td>
<td>Momordica Charantia Q 15₀⁻⁻⁻ 15₀⁻⁻⁻ bf</td>
</tr>
<tr>
<td>2.</td>
<td>11/3/2020</td>
<td>Symptoms reduced</td>
<td>Momordica Charantia Q 15₀⁻⁻⁻ 15₀⁻⁻⁻ bf</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fasting: 161mg/dl</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post prandial: 200mg/dl</td>
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</tr>
</tbody>
</table>
### Before Treatment

#### Kilpauk Medicine Services

- **Name:** Mrs. Lakshmi
- **Sex:** 50 Yrs/Female
- **Sample No.:** KMS 200113
- **Date Collected:** 21/01/2020
- **Print Out Date:** 21/01/2020

<table>
<thead>
<tr>
<th>Test Name</th>
<th>Test Result</th>
<th>Normal Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Sugar (F)</td>
<td>252 mg/dl</td>
<td>70 - 110</td>
</tr>
<tr>
<td>Blood Sugar (PP)</td>
<td>377 mg/dl</td>
<td>80 - 140</td>
</tr>
<tr>
<td>Urine for Sugar (F)</td>
<td>(++)</td>
<td></td>
</tr>
<tr>
<td>Urine for Sugar (PP)</td>
<td>(++)</td>
<td></td>
</tr>
</tbody>
</table>

End of the report

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Phone: 044-2843 2277, Cell: 9841770877, 9884342108
E-mail: kilpaukmedline@gmail.com Website: www.kilpaukmedlineservice.com
After Treatment

Conclusion
Patient is a known case of type 2 Diabetes Mellitus. After case taking based upon the common symptoms of diabetes, Momordica charantia Q was prescribed, after which patient’s symptoms reduced and also blood sugar levels reduced. From the above case it is evident that Momordica charantia is effective in treating diabetes mellitus. But it requires further research to explore it’s effectiveness and also for the awareness of this remedy.

References
2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4027280/