Role of Dieto-Therapy in Weight and Dyslipidemia Management - A Case Study

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Abstract—Dyslipidemia is a common problem among the young generation of India due to dependency on fast and junk food. It is a major cause of atherosclerosis and other cardiovascular disease. Great physician of Unani medical system (UMS) were also aware about the concept of Dusumat-e-Dam (lipid in blood/dyslipidemia) etc. They described four types of treatment modalities; dieto-therapy is one of them. The present paper is a case report of a young Muslim male whose lipid profile showed high levels of Cholesterol, triglycerides, LDL, VLDL, Blood pressure, etc. Ilaj bil Ghiza (Dieto-therapy) is a unique therapy in Unani system, the treatment is done by modulation in dietary habits, i.e. fasting, use of food stuff in more quantity having less nutritional value or less quantity having more nutrients or vice versa. The nutritional needs of body according to demand has been maintain and pharmacotherapy has been avoided to protect the body from any side and adverse action. After one month of change in diet pattern in terms of quality and quantity his lipid profile become normal level. It may be concluded that the concept of dieto-therapy in UMS has solid base to prove safe and effective in the weight and dyslipidemia management.

Keywords— Dyslipidemia; Ilaj-bil-Ghiza; dieto-therapy, Unani Medicine, weight management

I. INTRODUCTION

Dyslipidemia is basically a condition of abnormality of lipid levels measured in the blood, which includes either overproduction or deficiency of lipoproteins or both [1-2]. It may manifest as an elevation of serum total cholesterol or triglyceride or both, or low density lipoprotein (LDL) and decrease in high density lipoprotein (HDL) concentration [3-4]. If dyslipidemia left untreated for long duration, it may affect the overall health status of an individual leading to cardiovascular disease and diabetes mellitus type 2 [5-6] and is estimated that by 2020, about 2.6 million Indians will be affected by Cardiovascular disease related disability and death [7-8]. In Unani system, presence of lipids in blood is termed as Dusumat-e-Dam and was described elaborately about the ill effects with management, if fat is pathologically increased in blood [9-11]. Saman-e-Mufrit (obesity) has also been discussed extensively and managed in Unani medical system (UMS) since centuries [11]. According to philosophy of UMS, when oily substances of blood reaches to different organs of the body, due to Barid Mizaj (Cold temperament) of those organs, they start to deposit there in the form of fat (Shaham) [11-15]. This deposition of fat in the organs due to cold temperament falls under the category of Amraz-e-Balghamiya [14]. The common sign and symptoms mentioned in conventional Unani medical system of dyslipidemia are palpitation, atherosclerosis, stroke, breathlessness, coma and some time sudden death [16]. In Unani Medical system four types of treatment modalities has been discussed Ilaj bit Tadbeer (regimental therapy), Ilaj bil Ghiza (dieto-therapy), Ilaj bil Dawa (therapeutic) and Ilaj bil Yad (general surgery). The ilaj bil ghiza is a distinctive non-medicinal therapy in which the treatment is done by modulation in dietary habits, i.e. fasting, use of food in more quantity having less nutritional value or less quantity having more nutrients or vice versa [15-16]. The principle aim of ilaj bil ghiza (dieto-therapy) is to maintain nutritional needs according to demand of the body and avoid pharmacotherapy as drug is not considered to be part of the body and can produce adverse reactions [17]. According to Unani medical system individual who’s temperament melancholic (Cold and dry) in nature advised to take foods that are cold and wet in nature. Individual who generate blood much hotter than normal he may be advised to take cold temperamental (Cold and dry) person may take foods that are cold and wet in nature. On other hand phlegmatic (cold and wet) individual are advised to take hot and dry low nutritive value foods [18-23]. This presentation is an attempt to showcase the benefit of Ilaj bil ghiza (dieto-therapy) to control the weight and dyslipidemia.

This paper is organised as follows, Section I includes introduction of dyslipidemia, concept of Unani system of medicine and treatment modalities in Unani system, Section II regarding the methodology and case presentation along with instruction to follow dieto-therapy, Section III results of dieto-therapy in a case presented, Section IV discussion on the role of dieto-therapy in weight and
dyslipidemia management, Section V gives an insight where research can be extended the work with future prospects.

Objective of Study
Management of weight and dyslipidemia through dietotherapy of Unani Medical system.

II. METHODOLOGY

In this case study the patient was 48 years old young Muslim married, nonsmoker, non alcoholic, non hypertensive male came in our institute with the complaints of overweight, abdominal obesity, and numbness in hand and legs. He also complains feeling of heaviness in shoulder and legs after sitting of even short duration. Patient had no family history of diabetes, hypertension and hyperlipidemia/ dyslipidemia etc.

We assessed the patient's current food intake, activity level, and readiness to change, and then make recommendations for lifestyle change as per UMS. We have also discussed the benefit and advantages of dietotherapy and Unani Medicine treatment with him and asked his consent for choice. The patient was agreed to opt dietotherapy of UMS. We have registered him under fat and weight management as the main concern in the present study. The diet schedule especially with no added fats and sugars (with total calorie intake of 2000 cal/ day) was advised to him. The temperament of patient and diet were taken into consideration at the time of prescription. It was suggested to take pulses, cereals and one serving of meat in a week, whole grains, milk, cheese and curd to fulfil daily needs of the body. All vegetables and fruits were allowed. Added fat (oil for cooking) and butter were not allowed. The beverage included tea or coffee maximum up to four servings without sugar. Daily walk and light exercise were also advised. Physical examination and anthropometric parameters, weight, waist circumference, waist hip ratio, blood pressure, temperature, were recorded and waist hip ratio, BMI, blood pressure, blood glucose fasting, total cholesterol, triglycerides, LDL, VLDL were recorded along with enhance in HDL level as shown in table-1. The possible mechanism of action of dieto-therapy is to check the intestinal cholesterol absorption and also normalization of hepatic synthesis of endogenous lipoprotein formation.

Table 1: Anthropometric parameters and blood profile

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Baseline</th>
<th>After one month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (cm)</td>
<td>170</td>
<td>170</td>
</tr>
<tr>
<td>Body Weight (Kg)</td>
<td>78.9</td>
<td>76.2</td>
</tr>
<tr>
<td>Blood pressure (mmHg)</td>
<td>148/98</td>
<td>130/71</td>
</tr>
<tr>
<td>Temperature (°F)</td>
<td>98.5</td>
<td>98.6</td>
</tr>
<tr>
<td>Basal Metablic rate (BMI (Kg/m²))</td>
<td>27.0</td>
<td>26.1</td>
</tr>
<tr>
<td>Waist circumference (cm)</td>
<td>98</td>
<td>95</td>
</tr>
<tr>
<td>Waist Hip Ratio</td>
<td>0.92</td>
<td>0.90</td>
</tr>
<tr>
<td>Blood Sugar (Fasting) (mg/dl)</td>
<td>105.1</td>
<td>98.42</td>
</tr>
<tr>
<td>Bilirubin (mg/dl)</td>
<td>1.00</td>
<td>1.02</td>
</tr>
<tr>
<td>SGOT (IU/L)</td>
<td>7.07</td>
<td>10.61</td>
</tr>
<tr>
<td>SGPT (IU/L)</td>
<td>19.45</td>
<td>15.91</td>
</tr>
<tr>
<td>ALP (IU/L)</td>
<td>81.26</td>
<td>72.14</td>
</tr>
<tr>
<td>Blood Urea (mg/dl)</td>
<td>12.39</td>
<td>31.36</td>
</tr>
<tr>
<td>S. Creatinine (mg/dl)</td>
<td>1.12</td>
<td>0.73</td>
</tr>
<tr>
<td>Uric Acid (mg/dl)</td>
<td>5.86</td>
<td>4.16</td>
</tr>
<tr>
<td>Total Cholesterol (mg/dl)</td>
<td>250.7</td>
<td>180.3</td>
</tr>
<tr>
<td>Triglycerides (mg/dl)</td>
<td>331.2</td>
<td>149.6</td>
</tr>
<tr>
<td>HDL (mg/dl)</td>
<td>39.48</td>
<td>47.83</td>
</tr>
<tr>
<td>LDL (mg/dl)</td>
<td>145.3</td>
<td>102.67</td>
</tr>
<tr>
<td>VLDL (mg/dl)</td>
<td>66.4</td>
<td>29.8</td>
</tr>
</tbody>
</table>

IV. DISCUSSION

*Ilaaj bil Ghiza* (dieto-therapy) play a vital role in reduction of 28.08% in total cholesterol, 54.83% in triglycerides, 29.33% in LDL and 55.12% in VLDL, enhancement of 21.14% in HDL, 3.42% reduction in weight, 3.3% in BMI, 3.06% and reduction in waist circumference from 0.92 to 0.90 in this case. It is also observed that Blood pressure of patient was controlled and comes to the normal limit. Patient also feels of well being due to diet restriction and other physical activity. These results proved the claims of Unani philosophy of dieto-therapy for better health and well being [19-23]. We can conclude that strict diet and exercise exert beneficial effect as normalization of deranged lipid profile, body weight, BMI etc. There was no uneven sign and symptoms were complained by the patient during the therapy.

V. RECOMMENDATION

Thus we can say that dieto-therapy of UMS is effective and safe in the management of weight and dyslipidemia. This is a safe and cost effective therapy to control the patient of obesity, diabetes, hypertension, CHD, metabolic...
syndrome etc. These are easy and natural methods for control and prevention of dyslipidemia thereby reducing the risk of CHD and other diseases to enhance the life expectancy.

**Conflict of Interest:** None

**REFERENCES**


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2. **Sadia Ayub**: Laboratory supports, Proofing Reading and Editing
3. **Nighat Anjum**: Architect of the study
4. **Sarfraz Ahmad**: proving the facilities and other logistics for the study

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