INTRODUCTION
Dyslipidemia is a disorder of disturbed lipid metabolism involving abnormality in any or all of the lipoproteins in blood. According to ICMR-INDIAB study, the prevalence of Hypercholesterolemia was 13.9%, of hypertriglyceridemia was 29.5%, of low HDL-C was 72.3%, and of high LDL-C levels was 11.8%.[1] The metabolic consequences associated with changes in diet and lifestyle are responsible for increased number of hyperlipidaemia individuals. Lipoproteins are complex lipids that are essential for transport of cholesterol, triglycerides and fat soluble vitamins. The level of LDL cholesterol is most directly associated with coronary heart disease while VLDL shows association with premature atherosclerosis.[2] The ratio between Total Cholesterol:HDL<3.5 has been recommended as clinical goal for prevention of CHD.[3] Coronary Heart Diseases contribute 25-30% of deaths in most of industrial countries and originated by several risk factors, out of them Dyslipidemia is most important.[4] Clinical manifestations of hyperlipidemia are xanthelasma, corneal aurocus, prepatellar xanthomas but most of the time Dyslipidemia may remain hidden clinically.[5] In large number of cases the hyperlipidaemia may be diagnosed when lipid profile of the patients have been done who are associated with risk factors, or on random basis.

Causes of Secondary Hyperlipidemia[6]

Causes of Secondary Hypertriglyceridaemia
- Diabetes mellitus (type 2)
- Chronic renal disease
- Abdominal obesity
- Excess alcohol intake
- Hepatocellular disease

Causes of Secondary hypercholesterolaemia
- Hypothyroidism
- Nephrotic syndrome
- Pregnancy
- Anorexia nervosa
- Cholestatic liver disease
- Hyperparathyroidism
- Drugs (diuretics, corticosteroids)

According to Ayurveda a person following apathy like Ayvayama, Achinta, Diwaswapa Atisnigdha, Madhura, Adhyashan, atimatra may remain hidden clinically. In due course of time blockage of medovaha srotas propagates defective tissue metabolism which leads to medoraha and its...
associated disorders like Sthaulya, Premeha, Kustha, disorders of Ama, Napunsakata, Dysuria. The Ayurvedic methods of lifestyle modification and aptarpaha Ahara prevent Dyslipidemia and provide better management over allopathic drugs burden.

CASE
Krishna Amar a 50 years old male patient resident of Rihand Nagar, Sonbhadra, Uttar Pradesh came in OPD of Kayachikitsa, Indian Medicine Wing, S.S Hospital, BHU with the complaints of overweight, pain in legs, skin outgrowth below left eyebrow and lethargicness (OPD no. Kc7278/2017).

PHYSICAL EXAMINATION AND INITIAL INVESTIGATIONS
Physical Examination:
Blood Pressure -130/90 mmHg
Heart Rate -76/min
Height -164 cm
Weight -83 kg
BMI -31.1
Laboratory Evaluation:
Fasting Lipid Profile-
Total Cholesterol Level -282 mg/dL
Triglycerides -569 mg/dL
Very Low Density Lipoprotein (VLDL)-144 mg/dL
Low Density Lipoprotein (LDL) -138 mg/dL
High Density Lipoprotein (HDL)-30 mg/dL
Blood Sugar (F) -95 mg/dL
Blood Sugar (pp)-117 mg/dL

CLINICAL FEATURES
Patient complaints of increased weight, stretching type of pain in legs, xenthelasma and lethargic since 3 months. Before 3 months he was asymptomatic, after that he gradually developed above symptoms and received modern medicine of statin group with methylcobamin as prescribed by modern physician since last two months but no significant improvement was observed by the patient. With same complaints and advice he attended Kayachikitsa OPD for Ayurvedic management.

Assessment of Lipid Profile

<table>
<thead>
<tr>
<th>Parameters</th>
<th>B.T. (mg/dL)</th>
<th>F.U.1 (mg/dL)</th>
<th>F.U.2 (mg/dL)</th>
<th>F.U.3 (mg/dL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>282</td>
<td>222</td>
<td>226</td>
<td>180</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>569</td>
<td>365</td>
<td>223</td>
<td>217</td>
</tr>
<tr>
<td>VLDL</td>
<td>114</td>
<td>73</td>
<td>45</td>
<td>56</td>
</tr>
<tr>
<td>HDL</td>
<td>30</td>
<td>35</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>LDL</td>
<td>138</td>
<td>114</td>
<td>152</td>
<td>84</td>
</tr>
</tbody>
</table>

BT-before treatment, FU1-follow-up after 1st month, FU2-follow-up after 2nd month, FU3- follow-up after 3rd month.

Assessment of Clinical Signs and Symptoms

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>BT.</th>
<th>F.U.1</th>
<th>F.U.2</th>
<th>F.U.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>83 kg</td>
<td>80</td>
<td>77.5</td>
<td>76</td>
</tr>
<tr>
<td>Lethargy*</td>
<td>Present</td>
<td>Relieved 40%</td>
<td>Relieved 60%</td>
<td>Relieved 80%</td>
</tr>
<tr>
<td>Xenthelasma</td>
<td>Present</td>
<td>No significant reduction</td>
<td>No significant reduction</td>
<td>minute reduction in xenthelasma</td>
</tr>
<tr>
<td>Legs pain*</td>
<td>Present</td>
<td>No significant reduction</td>
<td>No significant reduction</td>
<td>No significant reduction</td>
</tr>
</tbody>
</table>

*clinical symptoms assessed according to patient.

PAST HISTORY
Patient had no history of diabetes, hypertension and smoking.

DRUG HISTORY
Atorvastatin 20mg and Methylcobamin 3mcg twice daily since two months.

AYURVEDIC MANAGEMENT
We have thoroughly examined the case and given following Ayurvedic management for keeping in views that: “Dietary modification is an important component in the management of Dyslipidemia”.

1- Specific Pathya
Chapatti made up of flour containing 5 ingredients (green mudga, yava, chanaka, gehu, sawa chawal).

2-General Pathya: Vihara/ life style measures
a) Intake of food at the time of hunger (in 3 divided doses).
b) Use of green vegetables, takra and lashun in their diet.\(^{[10]}\)
c) Minimum 5 min walking after every meal.
d) Strict advice for importance of vyayama on every visit and encourage for daily cycling 30 minutes.\(^{[10]}\)

3-Apathya /avoidable life style measures\(^{[11]}\)
- Excessive oily fried items, high sugar containing items
- Non-vegetarian diet.
- Sleeping during day time.

OBSERVATIONS AND RESULTS
Patient taken specific Pathya (chapatti of multigrain flour) and followed lifestyle modification regularly for three months. 3 Follow-ups were done at every one month of interval. At every follow-up lipid profile, clinical Symptoms, signs and other investigations were evaluated.
Other Investigation

<table>
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<tr>
<th>Parameters</th>
<th>B.T.</th>
<th>F.U.1</th>
<th>F.U.2</th>
<th>F.U.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood glucose (mg/dL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) fasting</td>
<td>95</td>
<td>89</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>b) Post prandial</td>
<td>117</td>
<td>112</td>
<td>105</td>
<td>115</td>
</tr>
<tr>
<td>BMI</td>
<td>31.1</td>
<td>29.98</td>
<td>29.04</td>
<td>28.48</td>
</tr>
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</table>

DISCUSSION

In the pathogenesis of dyslipidemia the hypo functioning of medodhatvagni play key role in the basic matrix of medovaha-sorotudushti along with vitiation of kapha dosha.[12] The Ahara and Vihara guidelines used here in the management of medovaha sorotudushti have property of reducing the kapha and excess medodhatu. Kapha dosha triggers the derangement of lipid components in various manners and obstruct the body channels. The management of dyslipidemia in modern medicine is not satisfactory because of prolong use of modern drugs & their side effects, hence researchers are inclined towards alternative medicine. In this regard variety of drug and non pharmacological measures are described in Ayurvedic texts. In Ayurveda Ahara-Vihara are considered as a part of therapeutic as well as Pathya measures during treatment. During the management of dyslipidemia kapha-medohara treatment as well as dietary measure along with promotion of jatharagni should be considered on priority basis.[13] The Ahara-Vihara guidelines used here in the management of medovaha srototushti have property of reducing the kapha dosha and rearrangement of meda and prevention of further vitiation of kapha dosha & medodhatu.

We advised follow vyayamm in the form of cycling. The mixture of crude food items contains barley (Hordeum vulgare), wheat (Triticum aestivum), green moong (Vigna radiate), chana (Cecer arietinum), sava ka chawal (a variety of rice= Echinochloa frumentacea). Flour of these five contents in equal quantity was made by milling and chapattis were prepared. This and this Flour has property of tridosha shamana and reduces the kaphameda because of ruksha, kashaya,laghu and virukhsana guna.[15] The possible mechanism of action of this Pathya is to check the intestinal cholesterol absorption and also normalization of hepatic synthesis of endogenous lipoprotein formation.

CONCLUSION

We finally concluded that strict Pathya-apathy measures exert beneficial effect as normalization of deranged lipid profile, body weight, BMI. The clinical symptoms subsided and unwanted effects were not observed at the end of therapy. Thus, we can say that selected measures are safe & cost effective and may be helpful to the patients of Obesity, Diabetes, Hypertension, CHD, Metabolic Syndrome etc. These are easy natural methods for control and prevention of dyslipidemia thereby reducing the risk of CHD and other diseases to enhance the life expectancy.

REFERENCES

1. Prevalence of Dyslipidemia in Urban and Rural India: The ICMR–INDIAB Study, Published: May 9, 2014 https://doi.org/10.1371/journal.pone.0096808
3. Park’s textbook of Preventive & Social Medicine by K. Park, Chapter 6, and page 371, 23rd edition.
4. Park’s textbook of Preventive & Social Medicine by K. Park, Chapter 6 and page 366, 23rd edition.
8. Ibid 23/5-7, p 437.
11. Ibid 21/34, p415.