



## A CASE STUDY TO ASSESS PUNARNAVA MANDURAM ACTION IN DYSLIPIDAEMIA

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### ABSTRACT

Dyslipidaemia is becoming common in society. Many people are becoming dependent upon medicines which they have to take lifelong. Clinically a patient of Dyslipidaemia was given Punarnava Manduram of Vaidyaratnam P.S. Varier's Arya Vaidya Sala, Kottakkal 5g twice a day empty stomach for 15 days. Before starting his treatment clinically his blood reports of Cholesterol, VLDL, LDL and HDL were done. After fifteen days again his blood reports were done. Highly promising results were noticed. The patient was further kept in follow up for 15 days but his cholesterol levels remain within limits even after discontinuation of medicine.

**Keywords:** Cholesterol, Dyslipidaemia, HDL, LDL, Punarnava Manduram, VLDL

### INTRODUCTION

Dyslipidaemia means high level of Cholesterol, high level of Triglycerides, high level of LDL, high level of VLDL and low level of HDL. Many people are suffering through dyslipidaemia. This condition is increasing due to lack of proper life style, including fast food, junk food, improper habits of sleeping during wrong times, stress or genetics. A study showed how urban and rural population of INDIA and U.S. is becoming prone to dyslipidaemia. Of the subjects studied, 13.9% had hypercholesterolemia, 29.5% had hypertriglyceridemia, 72.3% had low HDL-C, 11.8% had high LDL-C levels and 79% had abnormalities in one of the lipid parameters. Regional disparity exists with the highest rates of hypercholesterolemia observed in Tamil Nadu (18.3%), highest rates of hypertriglyceridemia in Chandigarh (38.6%), highest rates of low HDL-C in Jharkhand (76.8%) and highest rates of high LDL-C in Tamil Nadu (15.8%). Except for low HDL-C and in the state of Maharashtra, in all other states, urban residents had the highest prevalence of lipid abnormalities compared to rural residents. Low HDL-C was the most common lipid abnormality (72.3%) in all the four regions studied; in 44.9% of subjects, it was present as an isolated abnormality. Common significant risk factors for dyslipidaemia included obesity, diabetes, and dysglycemia<sup>1</sup>. An estimated 53% (105.3M) of U.S. adults have lipid abnormalities: 27% (53.5M) have high LDL-C, 23% (46.4M) have low HDL-C, and 30% (58.9M) have high TG. Among patients with serum TG levels  $\geq 200$  mg/dl, approximately 13% (25.7M) of adults have non-HDL-C levels  $\geq 130$  mg/dl. Also, 21% (42.0M) of U.S. adults have mixed dyslipidaemia (high LDL-C with either low HDL-C and/or high TG), with nearly 6% (11.6M) having all three lipid abnormalities. For LDL-C, an estimated 23M adults with CHD or a CHD risk equivalent and 17M with  $\geq 2$  risk factors but a Framingham risk  $\leq 20\%$  are not at goals of  $<100$  and  $<130$  mg/dl, respectively<sup>2</sup>. So, there must be some drug which can give complete cure of dyslipidaemia rather than just controlling it lifelong.

### AIMS AND OBJECTIVE

To study role of Punarnava Manduram in Dyslipidaemia patients.

### MATERIALS AND METHODS

Literary works on Ayurveda and physiology book. Clinical blood reports of Cholesterol, VLDL, LDL, and HDL.

**Clinical Study:** A patient aged fortyfive year was taken into study. His Lipid profile was done before treatment of Punarnava Manduram fivegram empty stomach twice a day. This treatment was carried for 15 days. Then again after treatment his lipid profile was done.

### Composition of Drug <sup>3</sup>

Each 10g of Punarnava Manduram is prepared out of:  
Punarnava 0.046 g (*Boerhavia diffusa* Linn.)  
Trivrit 0.046 g (*Operculina turpethum* (Linn.) *Silva manso*)  
Sunthi 0.046 g (*Zinziber officinale* Roxb.)  
Pippali 0.046 g (*Piper longum* Linn.)  
Maricha 0.046 g (*Piper nigrum* Linn.)  
Vidanga 0.046 g (*Embelia ribes* Burm. f.)  
Devakasha 0.046 g (*Cedrus deodara* (Roxb.) Loud.)  
Chitraka 0.046 g (*Plumbago Zeylanica* Linn.)  
Puskarahva 0.046 g (*Inula racemosa* Hook. f.)  
Triphala (Harad/*Terminalia Chebula* Retz., Bahera/*Terminalia bellirica* Roxb and Amla/*Emblica officinalis* Gaertn. each) 0.046 g  
Dweharidre (Haridra/*Curcuma longa* Linn. and Daruharidra/*Berberis aristata* DC. each) 0.046 g  
Danti 0.046 g (*Baliospermum montanum* Muell-Arg.)  
Chavika 0.046 g (*Piper retrofractum* Vahl.)  
Kutajaphala 0.046 g (*Holarrhena antidysenterica* (Linn.) Wall)  
Tikta 0.046 g (*Picrorhiza kurroa* Royle ex Benth)  
Pippalimula 0.046 g (root of *Piper longum* Linn.)  
Mustaka 0.046 g (*Cyperus rotundus* Linn.)

Mandura 0.046 g (Ferrous Salt)  
Gomutra 22.222 ml (Cow's Urine)

Guda 5.556g (Jaggery)  
Makshika 0.741 ml (Honey)

Name of Drug	Guna* (quality)	Rasa (Taste sensed by tongue)	Vipaka (Taste after metabolism)**	Virya (Heat released or absorbed after metabolism)***	Karmukta**** (functions)
Punarnava	Laghu, Ruksha	Madhur, Tikta, Kashaya	Madhura	Ushna	Tridosahara
Trivrit	Laghu, Ruksha, Tikshana	Tikta, Katu	Katu	Ushna	Kapha- Pita Samshodhana
Sunthi	Laghu, Snigdha	Katu	Madhur	Ushna	Kapha-Vata Shamak
Pippali	Laghu, Snigdha, Tikshana	Katu	Madhur	Anushnashita	Kapha-Vata Shamak
Maricha	Laghu, Tikshana	Katu	Katu	Ushna	Vata-Kapha Shamak
Vidanga	Laghu, Ruksha, Tikshana	Katu, Kashaya	Katu	Ushna	Kapha-Vata Shamak
Devakashtha	Laghu, Snigdha	Tikta	Katu	Ushna	Kapha-Vata Shamak
Chitraka	Laghu, Ruksha, Tikshana	Katu	Katu	Ushana	Kapha-Vata Shamak, Pita-Vardhak
Puskarahva	Laghu, Tikshana	Tikta, Katu	Katu	Ushna	Kapha-Vata Shamak
Harad	Laghu, Ruksha	Panchrasa, Kashaya Pradhan	Madhur	Ushna	Tridosahara
Bahera	Laghu, Ruksha	Kashaya	Madhur	Ushna	Tridosahara
Amla	Guru, Ruksha	Pancharasa, Amlapradhan	Madhur	Shita	Tridosahara
Haridra	Ruksha, Laghu	Tikta, Katu	Katu	Ushna	Kapha-Vata Shamak, Pitarechaka, Pitashamaka
Daruharidra	Ruksha, Laghu	Tikta, Kashaya	Katu	Ushna	Kapha-Vata Shamak
Danti	Guru, Tikshana	Katu	Katu	Ushna	Kapha-Pitahara
Chavika	Laghu, Ruksha	Katu	Katu	Ushna	Kapha-Vata Shamak, Pitavardhak
Kutajaphala	Laghu, Ruksha	Tikta, Kashaya	Katu	Shita	Kapha-Pitashamak
Tikta	Ruksha, Laghu	Tikta	Katu	Katu	Kapha-Pitahara
Mustaka	Laghu, Ruksha	Tikta, Katu, Kashaya	Katu	Shita	Kapha-Pitashamak
Mandura	Guru, Snigdha	Madhura	-	Shita	Pitashamak
Gomutra	Laghu, Tikshana	Katu, Lavana	Katu	Ushna	Kapha-Vata Shamak
Makshika	Ruksha, Laghu	Madhura Anurasa Kashaya	-	Shita	Tridosha-nashak
*Laghu (Light), Ruksha (Rough), Snigdha (Greasy), Guru (Heavy) and Tikshana (Sharp)					
**Madhur (Sweet), Amla (Sour), Katu (Pungent), Tikta (Bitter) and Kashaya (Astringent)					
***Ushna (Hot), Shita (Cold) and Anushnashita (in between hot and cold)					
**** Vata/Pita/Kapha Shamak (Pacifier) and Vata/Pita/Kapha Hara or Rechaka (remover)					

Punarnava: Lekhana (Scraping), Deepana (appetizer), Sothahara (anti-oedema), Rechana (very mild purgative), Hridya (Heart tonic), Jwaraghana (antipyretic), Raktavardhak (increases blood) Swedajanana (increases perspiration) and Mutrakrichrta (Oliguria/less and dysuria) <sup>4</sup>.

Trivrit: Bhedhan (perforates waste matter), Rechana (purgative), Sothahara (anti-oedema), Jwaraghana (antipyretic) and Lekhana (Scraping) <sup>5</sup>.

Sunthi: Sothahara (anti-oedema), Triptighana (removes satiety), Rochana (increases taste), Deepana (Appetizer), Hridya (heart tonic), Raktashodhak (purify blood) and Kaphaghana (Reduces Sputum) <sup>6</sup>.

Pippali: Deepana (appetizer), Triptighana (removes satiety), Mridurechana (mild purgative), Raktavardhak (increases blood), Raktashodhak (purify blood), Mutrakrichrta (Oliguria/less and dysuria) and Jwaraghana (antipyretic) <sup>7</sup>.

Maricha: Lalastravjanak (increases salivation), Deepana (appetizer), Pachana (increases digestion), Hridya (heart tonic), Kaphaghana (removes sputum), Yakritutejak (Liver Tonic) and Mutravikaranashak (Treats urine diseases), Jwaraghana (antipyretic), Swedajanana (increases perspiration) and Pramathi (opens each and every clogged channel of body) <sup>8</sup>.

Vidanga: Deepana (appetizer), Pachana (increases digestion), Raktashodhak (purify blood), Gandamalanashak (treats Lymph nodes of neck), Mutrakrichrta (Oliguria/less and dysuria) <sup>9</sup>.

Devakashtha: Deepana (appetizer), Pachana (increases digestion), Hridya (heart tonic), Raktaprasadak (increases blood), Sothahara (anti-oedema), Kaphaghana (Reduces Sputum) and Lekhana (Scraping) <sup>10</sup>.

Chitraka: Deepana (appetizer), Pachana (increases digestion), Pitasarak (secretion of Pita from liver), Yakrit-Plihasothaghana (anti inflammation of liver and spleen) and Kaphaghana (Reduces Sputum) <sup>11</sup>.

Puskarahva: Deepana (appetizer), Pachana (increases digestion), Mutrakrichrta (Oliguria/less and dysuria), Kaphaghana (Reduces Sputum), Hridya (heart tonic) and Swedajanana (increases perspiration) <sup>12</sup>.

Harad: Deepana (appetizer), Pachana (increases digestion), Hridya (heart tonic), Kaphaghana (removes sputum), Yakritutejak (Liver Tonic) and Mutravikaranashak (Treats urine diseases), Jwaraghana (antipyretic), Raktashodhak (purify blood) and Sothahara (anti-oedema) <sup>13</sup>.

Bahera: Deepana (appetizer), Rasa-Rakta-Mamsa-Meda Dhatu Satmikaran (brings to normal level), Kaphaghana (Reduces Sputum) and Sothahara (anti-oedema) <sup>14</sup>.

Amla: Rochana (increases taste), Deepana (appetizer), Hridya (Heart tonic), Raktapitashamak (Pacifier of Pita and Rakta), Yakritutejak (Liver Tonic) and Mutrakrichrta (Oliguria/less and dysuria) and Jwaraghana (antipyretic) <sup>15</sup>.

Haridra: Rochana (increases taste), Pitasarak (secretion of Pita from liver), Raktashodhak (purify blood), Raktaprasadak

(increases blood), Kaphaghana (removes sputum), Pramehaghana (decreases frequency of urine) and Jwaraghana (antipyretic) <sup>16</sup>.

Daruharidra: Deepana (appetizer), Pitasaaraka (secretion of Pita from liver), Raktashodhak (purify blood), Kaphaghana (removes sputum), Pramehaghana (decreases frequency of urine) and Jwaraghana (antipyretic) <sup>17</sup>.

Danti: Deepana (appetizer), Yakritutejak (Liver Tonic) Pitasaarak (secretion of Pita from liver), Virechak (Purgative), Raktashodhak (purify blood), Kaphaghana (removes sputum), Swedajanana (increases perspiration), Sothahara (anti-oedema) and Jwaraghana (antipyretic) <sup>18</sup>.

Chavika: Deepana (appetizer), Pachana (increases digestion), Kaphaghana (removes sputum) and Yakritutejak (Liver Tonic) <sup>19</sup>.

Kutajaphala: Vamak (emetic), Deepana (appetizer), Aamnashak (removes fermented food in body), Raktashodhak (purify blood), Jwaraghana (antipyretic) and Lekhana (scraper) <sup>20</sup>.

Tikta: Rochana (increases taste), Deepana (appetizer), Pitasaarak (secretion of Pita from liver), Kaphaghana (removes sputum), Yakritutejak (Liver Tonic), Raktashodhak (purify blood), Sothahara (anti-oedema), Pramehaghana (decreases frequency of urine), Jwaraghana (antipyretic) and Lekhana (scraper) <sup>21</sup>.

Mustaka: Deepana (appetizer), Pachana (increases digestion), Raktaprasadak (increases blood), Kaphaghana (removes sputum) Mutrakrichra (Oliguria/less and dysuria) and Jwaraghana (antipyretic) <sup>22</sup>.

Mandura: Deepana (appetizer), Raktaprasadak (increases blood), Kamalahar (jaundice treatment), Sothahara (anti-oedema) and Plihavridhihara (reduces increased size of spleen) <sup>23</sup>.

Gomutra Katu (pungent), Tikshana (sharp), Ushna (warm), Lavana Anurasa (end taste salty) Laghu (light), Mala Shodhak (waste product remover) Kapha-Vataghana (removes them), Krimi (parasites), Meda(fats), Vishapham (Toxins) remover. It cures Arsha (piles), Udara (abdominal disorders), Gulma, Sotha (swelling), Aruchi (don't want to eat), Pandu (anaemia). It is Dastavar (purgative), Hridya (heart tonic), Deepan (appetizer) and Pachan (digester) <sup>24</sup>.

Guda: Mutra (urine) and Raktashodhak (cleanses blood) <sup>25</sup>.

Makshika: Ruksha (rough), Sukshamamarganusari (able to get into all channels), Tridoshaprashamak (pacify all dosha), Medanashak (removes Meda) and Lekhana (scraper) <sup>26</sup>.

**Punarnava Mandur in different diseases:** It works on Pandu Roga, Pliha Roga, Arsha, Vishamjwara, Sotha, Grahni, Kushtha, Krimiroga <sup>27</sup>, Udara Roga, Anaha, Shula and Gulma Roga <sup>28</sup>.

### Samprapti (Pathogenesis)

**Pandu Roga:** Sadhak Pita located in heart increases due to its aetiology. Then it is thrown into ten channels towards whole body by vitiated Vata. It gets located in between Twacha (skin) and Mamsa (Muscles) spoiling Kapha, Vata, Rakta, Twacha and Mamsa Dhatu giving Pandu (pale), Haridra (turmeric colour) and Harita Varna (Green shade) <sup>29</sup>.

**Pliha Roga:** Meda Dhatu Dhusti <sup>30</sup>.

**Arsha:** Twacha, Rakta, Mamsa and Meda Dushti <sup>31</sup>.

**Vishamjwara:** Tridoshas <sup>32</sup> get vitiated by their aetiology. They enter into stomach and get mixed with Rasa Dhatu closing Rasavha Strotas (channels in which Rasa flows) and Swedvha Strotas (Channels in which sweat flows). It decreases Agni

(digestive power) and makes it to spread in whole body leading to Jwara <sup>33</sup>. Vishmajwara is of five types Santat: affecting Rasavahi Strotas <sup>34</sup> spoiling all Dhatus and Mutra-Purishadi <sup>35</sup>, Satat: Doshas affecting Rakta Dhatu <sup>36</sup>, Anyadhyushak: affecting Medovahi Sira <sup>37</sup> Trityak: affecting Asthi Dhatu and Chaturthak: affecting Majja Dhatu <sup>38</sup>.

**Sotha:** Spoiled Vayu when enters in veins located exteriorly then it spoils Kapha, Rakta and Pita. These spoiled Kapha, Rakta and Pita stop ways of spoiled Vayu. This catch Vayu now runs here and there leading to bulging of that area known as Sotha <sup>39</sup>.

**Grahni:** Jathragni when spoiled due to its aetiology not able to digest even light food. Undigested food gets fermented and takes form of toxic form Aam <sup>40</sup>.

**Kushtha:** Tridosha spoiled due to their aetiology spoil Twacha, Rakta, Mamsa and Ambu leading to Kustha <sup>41</sup>.

**Krimiroga:** There are two types of Krimi: Bahiya (external) and Abhyantar (internal). External due to Mala which occurs due to personal unhygienic conditions <sup>42</sup>. Internal are of three types Raktaj: etiology same as of Kushtha and located in Raktvha Dhamni (arteries), Shleshmaj: occurs due to diet which increases Kapha, dirty food, Virudha and Asatmya food (not suitable for own body) located in Aamashya (stomach) and Purishaj: etiology same as of Shleshmaj located in Pakwashya (intestines).

**Udara Roga:** Due to weakness of Jathragni (digestive power) Mala: Mutra and Purisha (urine and stool) increases in body. When these Mala start accumulating in Udara (abdomen) they spoil Prana Vayu and Apana Vayu stopping upper and lower ways. Now these Mala and Tridoshas accumulates in between Twacha and Mamsa causing Adhyamana (flatus) alongwith Udara Roga <sup>43</sup>.

**Anaha:** When Aam and Purisha accumulate together causes constipation with locking of Vayu in abdomen <sup>44</sup>.

**Shula:** It has eight types according to different Doshas single or in combination with Aam as eighth type <sup>45</sup>. Harita says it has same pathogenesis as Jwaradi <sup>46</sup>.

**Gulma Roga:** Vayu due to its aetiology increases in Mahastrotas (abdominal region). It vitiates Kapha and Pita expelling them out of their natural abodes. These two now block Vayu ways due to which it cannot come out. Ultimately leading to pain in heart, umbilical region, flanks, abdomen and suprapubic region. This Vayu stays independently or dependently in Pakwashya, Pitashaya and Kaphashya in Pinda Rupa (mass form) which can be palpated well. This is known as Gulma named after different Doshas <sup>47</sup>.

**Dhatu-Mala/Updhatu relationship:** Kapha is Mala of Rasa Dhatu <sup>48</sup>, Sweda is Mala of Meda Dhatu Mamsa has Updhatu Twacha and Vasa (fats in adipose tissues) <sup>49</sup>.

**Aam and Agni:** Aamrasa is produced when Agni is not able to digest even light diet and turns it into Shukta (fermented by-product) rather than Rasa Dhatu <sup>50</sup>.

**Prameha:** Meda, Mamsa and Sharirik Kleda (water contents) are spoiled <sup>51</sup>.

## RESULTS

Lipid Profile	Date:16/3/15	Date:1/4/15
S. Cholesterol (130-220 mg %)	120	150
Triglycerides (60-160 mg %)	280	165
HDL (40-60 mg %)	48	42
VLDL (16-32 mg %)	56	33
LDL (80-160% mg %)	16	75

## DISCUSSION

Cholesterol, LDL, VLDL, HDL, Triglycerides can be compared with Vasa, Meda, Kapha, and Kleda in body.

Punarnavamanduram has drugs which acts on decreasing Kapha, Agni deepen which ignites process of digestion which is root cause of Aam production. It has Pachana drugs which clean Aam if formed. It is Raktashodhak which removes out toxins produced due to less Agni. It increases secretions of Pita (bile) thereby helping in better metabolism of fats. This drug is able to break trap of Vata by Kapha/Pita/Mala means it is able to clear any sort of blockages in body. It is Lekhana cuts out excessive fats in body. It is Pramehaghana in which basic Dushti (spoiling) is of Kapha, Meda and Kleda of body. It is Jwaraghana means works up to level of Majja Dhatu cleaning dushti. It is Swedajanana which is Mala (waste) of Meda, showing not only cleaning Meda but removing its Mala also. It acts at the level of Twacha which is produced as Updhatu of Mamsa and produces Vasa also at same time. Punarnavamanduram acts on different diseases by working on as:

In Pandu Roga alleviating ailment at level of spoiled Kapha, Vata, Rakta, Twacha and Mamsa Dhatu, in Arsha corrects Twacha, Rakta, Mamsa and Meda Dushti, in Gulma removes Avran of Vayu by Kapha and Pita, in Vishamjwara it cleanses Rasa Strotas which is spoiling all Dhatu and Mutra-Purishadi, <sup>52</sup> Satat: Doshas affecting Rakta Dhatu, <sup>53</sup> Anyadyushak: affecting Medovahi Sira, <sup>54</sup> Trityak: affecting Asthi Dhatu and Chaturthak: affecting Majja Dhatu all are normalized, in Shula works at Vatik Shula, Paitik Shula, Kaphaj Shula, Vata-Pita, Pita-Kapha, Kapha-Vata and Vayu Avrit by Aam, in Anaha removes Aam and Purisha entrapping Vayu, in Udara Roga cleans Mala and Tridoshas accumulated in between Twacha and Mamsa causing Adhyamana, in Kushtha cleanses Twacha, Rakta, Mamsa and Ambu Dushti, in Pliha Roga removes Meda Dhatu Dhusti. It removes Mala in Krimiroga, breaking pathology works at locations in Raktvha Dhamni (arteries), Shleshmaj: occurs due to diet which increases Kapha, dirty food, Virudha and Asatmya food (not suitable for own body) located in Aamashya (stomach) and Purishaj: etiology same as of Shleshmaj located in Pakwashya (intestines). In another clinical study also it was found ayurvedic formulation is having good role in curing dyslipidaemia<sup>55</sup>.

## CONCLUSION

Punarnavamanduram is able to work at Kapha, Meda, Vasa and Kleda levels. Which are responsible for abnormal levels of Dyslipidaemia in body. So this drug is able to cure Dyslipidaemia. This is a single patient study but it can be evaluated in more patients to conclude efficacy of results in better way.

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