

## The Consequences of Lipid Profile in Menopausal Age - A Clinical Evaluation

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**Abstract:** Background: Menopause is an Oestrogen deficient state but unlike other hormone deficient states which are considered a disease, menopause is not a disease. Post-menopausal stage increases the chances of CHD due to deficiency of Oestrogen which among young women naturally helps to keep lipid profile normal. Method: This study is designed to evaluate the effect of menopause on cholesterol profile and its variation by administering Shatavaryadivati. 43 patients with age between 40 to 60 years, who have cessation of Menstruation since one year, were selected for the study. Result: After administration of Shatavaryadivati, Serum cholesterol level was decreased up to 6.05% but it was non-significant at  $P > 0.05$ , Serum triglyceride level was decreased up to 9.16% but it was insignificant at  $P > 0.05$  and HDL level was increased up to 4.37% which was significant at  $P < 0.05$ . Conclusion: Data leads to positive results on lipid profile. Hence the administration of Shatavaryadivati helps to maintain the level of lipid profile in menopause. [Rujuta T NJIRM 2017; 8(4):45-47]

**Key Words:** Menopause, Shatavaryadivati, oestrogen, HDL, LDL, Serum cholesterol

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**Introduction:** Menopause used to be considered normal with process of ageing and though women had symptoms, they were not treated but were either left alone or were given some symptomatic treatment like good diet, tranquilizers and psychotherapy. This thinking has changed now. We could definitely know the endocrine and metabolic changes that occur with menopause and also the short- and long- term sequel of Oestrogen deficiency and so, the treatment is possible. The enormous decline in the maternal mortality in particular has meant that increasing proportion of women are surviving the menopause and have several years of active life beyond it. If the average age of menopause is 50 years, most women will spend approximately one-third of their life in post-menopausal period in India<sup>1</sup>, as the life expectancy of women has increased from 31.7 years in 1940 to 60.7 years in 1993 and is expected to be 65 years in year 2000 and beyond. However, the achievements made in terms of longevity stand diminished owing to the lack of specialized health care that addresses the medical needs of the aged.

Ayurvedic classics describe Rajonivritti (Menopause) as physiological phenomena and not a disease. However, in-depth study of Ayurvedic classics with reference to Rajonivritti (Menopause) do provide scattered citation of diseased condition and medicine having curative value for treatment of Rajonivritti (Menopause) complications. Rajonivritti (Menopause) usually occurred at the age of 50 which means as per Sushruta<sup>2</sup>, it falls in category of Hani. The symptoms of Vriddhaavastha (Geriatric condition) as described in Ayurvedic classics falls in

Dhatukshayaavastha (general decline). The symptoms of Dhatukshayaavastha have also been discussed in Charaka samhita<sup>3</sup>. It is also well known that Acharya sushruta<sup>4</sup> has mentioned Jara (Old age), Mrutyu (Death), Kshudha (Hunger), Pipasa (Thirst) etc. as Swabhavbalapravrittivyadhi. He had further classified Swabhavbalapravrittivyadhi in two categories viz., Kalaja (Natural Phenomena) and Akalaja (Untimely Phenomena). Kalaja is not reversible but it is yapyā (Manageable) by dietetics and Rasayana. Akalaja is also treated by Rasayana.

Most cardiovascular disease results from atherosclerosis in major vessels. The risk factors are the same for men and women: family history of cardiovascular disease, high blood pressure, smoking, diabetes mellitus, an abnormal cholesterol profile and obesity. However, men have a risk of developing coronary heart disease over 3.5 times higher than that of women. With increasing age, this advantage is gradually lost, and cardiovascular disease becomes the leading cause of death for both older women and older men.<sup>5</sup>

During the reproductive years, women are protected from coronary heart disease. The reason for this protection can be attributed to the higher HDL levels in younger women, an effect of Oestrogen and lower levels of testosterone. Total and LDL cholesterol levels are lower in premenopausal women than in men, although the level gradually increases with aging and after menopause they raise rapidly.<sup>5</sup> It is also documented that after menopause, the risk of coronary heart disease doubles for women as the

Atherogenic lipids at about age of 60 reach levels greater than those in men. These changes can be reversed with Oestrogen treatment.<sup>5</sup>

**Method:**

**Clinical study:** Patients attending the O.P.D of Strirogaevam Prasutitantra Department, I.P.G.T&R.A., Hospital, were registered for the study. The study was started post approval by the Institutional Ethics committee IPGT & RA Jamnagar. Shatavaryadivati was prepared in Pharmacy of Gujarat Ayurved University Jamnagar. Shatavaryadivati contains Shatavari(Asparagus racemosus) two parts, Ashwagandha (Withaniasomnifera), Yastimadhu (Glycerrhizaglybra) and Shakhpushpi (Convolvulus pluricalis) each one part.

**Selection Criteria:** Patients with below criteria were selected for present study,

- Age between 40 to 60 years
- Cessation of Menstruation since one year.
- Appearance of menopausal symptoms i.e. hot flushes, night sweats and other psychosomatic disorders.

Lipid Profile	Mean Score			% of Relife	SD	SE	t	P
	BT	AT	D					
S.Cholesterol	204.5	192	12.37	6.05↓	41.26	6.29	1.97	>0.05
S.Triglyceride	29.5	117.6	11.86	9.16↓	62.755	9.577	1.24	>0.05
S.HDL	41.5	43.3	1.81	4.37↑	4.71	0.71	22.552	<0.05

**Discussion:** Though serum cholesterol and serum triglyceride level were insignificantly decreased, HDL level was significantly increase by Shatavaryadivati. The strongest predictor of coronary heart disease in women is a low HDL cholesterol.<sup>5</sup> The average HDL cholesterol in women is approximately 55 -60 mg/dl. A decrease in HDL cholesterol of 10 mg/dl increases coronary heart disease risk by 40-50%. In women who had normal total cholesterol and LDL cholesterol levels but low HDL cholesterol levels, increased the risk of an acute major coronary event. In present study, Shatavaryadivati increases the HDL level significantly.

Shatavaryadivati contains Shatavari, Ashwagandha, Yastimadhu and Shankpushpi. All these drugs are described as Rasayana in Ayurvedic classics. Since Rajonivritti is a part of Vriddhavastha, Rasayana therapy is the best treatment as described in the

**Biochemical Investigation:** Serum cholesterol, Serum triglyceride, HDL were carried out.

**Management of the patients:** All the selected patients fulfilling the criteria of selection were administered Shatavaryadivati 6gm in three divided doses for 2 month and anupana was milk.

**Criteria for assessment of results:** Patients were investigated for Serum cholesterol, Serum triglyceride, HDL value before and after administration of Shatavaryadivati.

**Observations & Results:** The effect of Shatavaryadivati was evaluated by assessment of serum cholesterol, serum triglyceride and HDL level before and after treatment which was observed on 43 patients. After administration of Shatavaryadivati,

- Serum cholesterol level was decreased up to 6.05% but it was non-significant at P >0.05
- Serum triglyceride level was decreased up to 9.16% but it was insignificant at P >0.05
- HDL level was significantly increased at P <0.05

Ayurvedic classics and even substituted by the clinical findings.

With regards to modern science, chemical constituents of Shatavari as established by modern science are Shatavarin I to IV<sup>6</sup>, which improves cholesterol and metabolism, and Isoflavones<sup>7</sup> which is Phytoestrogen. Yastimadhu<sup>8</sup> also contains Isoflavones, while Ashwagnadha<sup>9</sup> and Shankpushpi<sup>10</sup> contain Beta-Sitosterol<sup>10</sup> which is having anti – atherosclerotic effect.

It is well-known that Oestrogens increases HDL cholesterol through reducing hepatic triglycerides lipase activity that catabolizes HDL. Study shows that Oestrogen has beneficial effect on systolic and diastolic blood pressure in normotensive and hypertensive women. Oestrogen can produce relaxing effect on coronary arteries in animal model.

Phytoestrogens is a descriptive term applied to non-steroidal compounds that have estrogenic activity or

are metabolized into compounds with Oestrogen activity. These phytoestrogen positively effects on HDL level.

**Conclusion:** Shatavaryadivati shows statistically in significant reduction in Serum cholesterol and Serum Triglycerides while it shows significant increase in HDL level at  $P < 0.05$ .

During the reproductive years, women are protected from coronary heart disease. The reason for this protection can be attributed to the higher HDL levels in younger women, an effect of oestrogen, and lower levels of testosterone. Total and LDL cholesterol levels are lower in premenopausal women than in male, although the levels gradually increase with aging and after menopause they increase rapidly. It is also documented that after menopause the risk of coronary heart disease doubles for women as the atherogenic lipids at about the age of 60 reach levels greater than those in men. These changes can be reversed with oestrogen treatment. Shatavaryadi vati contains phytoestrogen which may have effect on metabolism of Cholesterol.

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