



## ‘Study of etiopathogenesis of ‘*akalaja jara*’ in females in modern times’

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### Abstract:

*Vaya*, i.e. Age represents state of body depending upon the length of time that has passed since birth of a human being. Considering a total life-span of 100 years, Acharya Charaka and Sushruta has described old age after 60 years and 70 years respectively.

According to Ayurveda, *Jara* is one of the *Svabhavika Vyadhi*. *Jara* or *Vridhnavastha* is the later stage of life when gradual declination of functions of physical and mental faculties gear up. Symptoms of *Jara* like greying of hair, wrinkles, flabbiness of muscles and joints, diminished vision and decreased intellectual functions start appearing in this stage. If these changes occur according to *Kala* i.e. time, it is called as

*'Kalaja Jara'* and if it occurs before *Kala* it is referred as *'Akalaja Jara'*.

Nowadays, it is observed that these symptoms are more prevalent in the *Madhyama Vaya* (middle age) in females significantly manifesting into *Akalaja Jara* i.e. early ageing. The present entitled ‘**Study of Etio-pathogenesis of ‘*Akalaja Jara*’ in Females in Modern Times**’ was an observational study to identify and study potential factors that accelerate premature ageing in females with Ayurvedic perspective.

The present study was conducted to focus on the aetiological factors for *'Akalaja Jara'* in females. In the study, 75 female patients, in three age groups (16 -27, 28 – 39 and 40 – 50 years of age), showing signs and symptoms of *Jara* as per Ayurvedic texts were

enrolled to collect information regarding their *Aahara* and *Vihara*. Objective parameters like BMI and BMR were also recorded.

It was observed that incorrect modern lifestyle, dietary habits and mental stress play significant role in causation of *Akalaja Jara* in females. Early diagnosis would help them to take care of themselves and to follow measures described in Ayurveda to prolong ageing.

**Keywords:**

Premature Ageing,  
*Akalaja Jara, Vriddhavastha*

**Introduction:**

Ayurveda explains ageing process starting from conception to death as *Vaya*. Considering total life span, i.e. *Vaya* of human being, 100 years is divided into 3 major categories *Balya*, *Madhyama* and *Vriddha*.<sup>1</sup> According to Charakacharya, *Balyavastha* is till 30 years, *Madhyamavastha* is from 30 to 60 years and beyond 60 is *Vriddhavastha* of *Vaya*.<sup>2</sup> According to Sushrutacharya, *Balyavastha* is till 16 years, *Madhya Vaya* between 16-70 years and thereafter *Vriddha Vaya*.<sup>3</sup>

*Vriddha* or *Jara Avastha* is the last phase of life span and mainly characterised by degenerative changes in body. In this stage, there is gradual decline of all *Dhatu*s, *Indriyas*, *Bala* with appearance of symptoms like greying and falling of

hair, wrinkling of skin, loss of body luster, flabbiness of muscles and joints, loss of memory, intelligence, etc.<sup>4</sup>

Sushrutacharya mentions *Jara* as one of the naturally occurring disease means *Svabhava Bala Pravritta Vyadhi* and also describes *Jara* of two types- *Kalaja Jara* and *Akalaja Jara*.<sup>5</sup> When ageing occurs timely according to *Kala* it is *Kalaja Jara*. When ageing occurs before prescribed age it is called *Akalaja Jara*. It is rapidly progressing and of greater intensity if neglected.

Charakacharya has also mentioned *Kala* as cause of *Jara* and *Mrityu*.<sup>6</sup> *Kala* i.e. time interacts with human from conception till death and this time period is called as *Ayu* (life span).<sup>7</sup> In Ayurveda, *Vaya* is described in females in a different way according to physiological changes that occur in woman's life. Till the age of 16, she is *Bala*, till the age of 32 she is *Taruni*, between the age of 32-50 years she is *Adhirudha* and at the age of 50 *Vriddhavastha* starts due to cessation of menstrual cycle i.e. menopause.<sup>8</sup> Acharya Sushrut has also described *Jara Kala* of woman at the age of 50 years. However in modern times, symptoms of *Jara* are occurring in females before the age of 50 years significantly. No specific etiology of *Akalaja Jara* is described in any of *Brihatrayi* (major classical texts

of Ayurveda). The proposed study was designed to focus on the *hetus* (aetiological factors) for '*Akalaja Jara*' in females. Early diagnosis would help them to take care of themselves and to follow measures described in Ayurveda. So, they can enjoy a healthy life and age gracefully. As it is said by Sushrutacharya, '*Sankshepataha Kriyayogo Nidanaparivarjanam*', knowing causative factors would be useful in prevention of *Akalaja Jara*.<sup>9</sup>

Thus, the dissertation entitled, '**Study of Etiopathogenesis of '*Akalaja Jara*' in Females in Modern Times**' was an observational study to identify and study potential factors that accelerate premature ageing in females with Ayurvedic perspective. In the study, Seventy five female patients showing signs and symptoms of '*Akalaja Jara*' as per Ayurvedic texts were examined according to questionnaire especially designed to capture information regarding *Ahara & Vihara* of modern times. Objective parameters like BMR, BMI were also recorded. The observations and results were presented according to the data generated and the valid conclusions were drawn on logical grounds.

### **Materials and Methods:**

All Ayurvedic texts with special commentaries including modern text and updates on websites about premature ageing – *Akalaja Jara* were studied and documented for the intended study.

It was an observational Study in which method of data collection was Questionnaire based survey method. Study design was Cross-sectional study design. Convenience (non – probability) Sampling technique was adopted.

In the study, Seventy five female patients showing signs and symptoms of '*Akalaja Jara*' as per Ayurvedic texts were examined according to questionnaire especially designed to capture information regarding *Ahara & Vihara* of modern times. The age group 16 -50 years was equally divided into three sub-groups as 16 - 27, 28 – 39 and 40 – 50 years of age and 25 (33.33%) patients were enrolled in each sub-group. Demographic details such as age, *Prakriti*, *Agni*, occupation, marital status of all female patients were also recorded. Objective parameters like BMR, BMI were also recorded.

### **Results:**

- **Assessment of demographic details:**  
75 Female patients suffering from *Akalaja Jara* in the age group of 16 – 50 years were enrolled in the study. The age group 16 -70 years was equally divided

into three sub-groups as 16 -27, 28 – 39 and 40 – 50 years age and 25 (33.33%) patients were enrolled in each sub-group. Out of total 75 patients, 21 (28%) patients had *Vatapradhana - Pitta Prakriti*, 14 (18.67%) were having *Pittapradhana – Kapha Prakriti*, 12 (16%) patients had *Vatapradhana – Kapha Prakriti*, 18 (24%) had *Pittapradhana Vata Prakriti*, only 06 (8%) patients *Kaphapradhana Vata Prakriti* whereas 04 (5.33%) females were having *Kaphapradhana Vataprakriti*. The predominant Prakriti in the female patients suffering *Akalaja Jara* was *Vatapradhana - Pitta Prakriti* followed by *Pittapradhana Vata Prakriti*.

Out of total 75 female patients suffering from *Akalaja Jara*, 34 (45.33%) females had *Mandagni*, 28 (37.33%) females were having *Vishamagni* whereas only 13 (17.33%) females had *Teekshnagni*. In group A, 08 females had *Mandagni*, 13 females were having *Vishamagni* whereas only 04 females had *Teekshnagni*. In group B, 09 females had *Mandagni*, 12 (37.33%) females were having *Vishamagni* whereas only 04 (17.33%) females had *Teekshnagni*. In group C, 17 females had *Mandagni*, only 03 females were having *Vishamagni* whereas 05 females had *Teekshnagni*.

Out of total 75 female patients, 12 (16%) were students, 28 (37.33%) females were housewives whereas 35 (46.67%) females were doing various jobs. Out of 25 female patients in Group A, 12 patients were students, 06 were housewives whereas 07 patients were doing jobs. Out of 25 female patients in Group B, 10 patients were housewives whereas 15 female patients were doing jobs. Out of 25 female patients in Group C, 12 were housewives whereas 13 patients were doing jobs. 37.33% of patients were housewives and 46.67% were working women.

• **Assessment of aetiological factors:**

**Rasa-sevana:** Most of female patients were found to be consuming *Katurasa* (408) followed by *Lavanarasa* (339) and *Amlarasa* (330). There was moderate consumption of *Madhurarasa* (310) and *Tiktarasa* (202). Minimal consumption of *Kashayarasa* (119) was found in those females. *Katu Rasasevana* was observed to be in excess in all 3 groups, especially in Group C which had a score of 408.

**Aaharaja Hetu:** Intake of *Vidahi Anna*, *Viruddha Anna*, *Virudhaka Anna* was found to be significant in all three groups. Females were consuming bakery products, excess oily food, non-vegetarian food and outside food mostly on regular basis. In Group A, *Atisevan*

of Bakery products, *Virudhaka*, Excess oily food *viruddhanna sevan* was found remarkably. Outside food, junk food intake was found more in this group. In Group B, Excess oily food, *Vidahi Anna* and Bakery products, *Virudhaka* consumption was found more. In Group C, *Paryushitanna*, *Virudhaka*, Bakery products, *Viruddhanna* & non-vegetarian food consumption was found more. Irregular meal timings were 68% in Group B and 76% in Group C, both, more than that in Group A. *Adhyashana* was found 36% in Group C which was more than other 2 groups. *Sevan* of these 2 Hetus gave rise to *Agnidushti* causing *Ajeerna* and *Rasadhatu Dushti*. *Alpashana* (48%) and *Upavas* (68%) were largely found in Group C, whereas *Anashana* was 52% in Group B.

**Viharaja Hetu:** *Avyayam* is found dominantly in all 3 groups 68%, 64% and 60% respectively. *Shitvata Sevan* is found more in Group A (56%) than other 2 groups. It causes *Vataprakopa* by *Ruksha Guna*. *Atapasevan* is found more in Group B (36%).

**Pattern of sleep:** *Diwaswap* is found in 52% in Group C, which is more than Group A & B. It causes *Agnimandya* which in turn leads to vitiation of *Kapha* and *Meda* and *Srotorodha*.(

*Ratrijagrana* is found in Group B & A more than Group C.

**Manasa Hetu:** In this study, *Hetu Chinta* is found more in all 3 groups that causes *Manovaha Sroto Dushti* which leads to *Rasavaha Sroto Dushti*.

**Assessment of Srotodushti:** Vitiation of *Rasavaha*, *Asthivaha*, *Annavaha*, *Manovaha* and *Artavavaha Srotas* was observed predominantly in Group A. Whereas, *Manovaha*, *Rasavaha*, *Asthivaha*, *Annavaha*, *Artavavaha*, *Raktavaha*, *Mamsavaha*, *Medovaha Srotas* were found to be vitiated predominantly in Group B. Compared to Group A and Group B, more vitiation of Srotas was observed in Group C. The *lakshana* of *Srotodushti* from group A and B are of major concern as they denote occurrence of signs and symptoms of ageing prematurely.

**Assessment of Artavavaha Srotodushti:** *Artavavaha Srotodushti* was observed in maximum number of females of Group B due to effect of *Rasavaha*, *Manovaha*, *Annavaha Srotodushti*. *Rajakshaya* was observed in 13 females of Group B followed by Group A. *Rajovridhi* was observed more in Group B. In Group C, it is observed as a Pre-menopausal Syndrome. Irregular menses were observed in group B followed by group

A. In group C, irregular menses were observed as sign of Pre-menopausal Syndrome due to same reason. *Artavavaha Srotodushti* was observed in maximum number of females of Group B due to effect of *Rasavaha, Manovaha, Annavaha Srotodushti*. *Rajakshaya* was observed in 13 females of Group B followed by Group A.

In Group C, it is observed as a Pre-menopausal Syndrome. Irregular menses were observed in group B followed by group A indicating vitiation of *Vata Dosha* and *Rasa-Raktadhatukshaya*. In group C, irregular menses were observed as sign of Pre-menopausal Syndrome due to same reason. *Anapatyata* (Infertility) was observed in 3 females in group B, 2 females in group C, and 1 in group A due to *Artavavaha Srotodushti* and *Rasavaha Srotodushti*. Average age of Menopause in Indian women is about 44 years. Menopause before 40 years of age, i.e. 35 to 40 years, is considered as Premature Menopause, and before 44 years, it is considered as Early Menopause. In Group B, 3 females experienced Premature Menopause, while in group C, 6 females experienced Early Menopause, both due to *Rasadhatukshaya*.

Generally, in Indian women the average age of Menarche is 12 to 14 years. 16 patients in Group A, 12 patients in Group

B, and 3 patients in Group C, had their first menses before 12 years of age.

• **Assessment of *Lakshanas* of *Akalaja Jara*:**

In Group A, *Palitya, Agnisaad, Khalitya, Prabhahani, Twakparushya, Drishti-Rhas*. These 6 symptoms were found dominantly. In Group B, *Palitya, Parakramahani, Agnisaad, Shlatha-asthi, Twakparushya, Shlathasar, Prabhahani, Khalitya, Drishti-Rhas* These 9 symptoms were seen dominantly. *Vali* starts to appear in Group B. In Group C, *Palitya, Parakramahani, Twakparushya, Prabhahani, Khalitya, Shlatha-asthi, Shlatha-sandhi, Agnisaad, Drishti-Rhas, Daurbalya, Shlathasaar, Vali, Medhahani*. These 12 symptoms were found dominantly.

Symptoms found in group C are also noted in Group B & A. Less number of symptoms was found in group A than those in group B and group C.

In group C, almost all symptoms of *Akalaja Jara* are found. Symptoms of *Jara* found in group B are nearly of same percentage as group C, which is a thing to worry. According to *Acharya Sushrut, Parihani* stage starts at the age of 40 years. Yet, here it is observed that the stage has started much before the age of 40 years. The most common symptoms in all 3



groups were *Palitya*, *Twakparushya*, *Agnisaad*, *Parakramahani*, *Prabhahani*, *Khalitya*, *Drishti-Rhas*, *Shlathasar*.

Symptoms like *Vepathu*, *Shwasa*, *Kasa*, *Karmendriyahani* were not observed predominantly as these symptoms are seen more common in later adulthood, which was beyond scope of this study.

#### **Assessment of Dosha-Dhatu-Mala**

**Dushti:** *Rasadhatudushti* was significantly observed in the form of *Rasadhatukshaya* in all 3 groups. *Vata Dosha Dushti* is found 52% i.e. more in all 3 groups and *Pitta Dosha Dushti* is found 30.66% in all 3 groups. *Dushti* of these 2 *doshas* is responsible for the manifestation of the *lakshanas* of the disease. *Purisha Maladushti* was observed to significant level in all three groups.

Body Mass Index is an indicator of body fat irrespective of age and gender. Underweight patients were found more (48%) in Group B due to aetiological factors such as *Anashana*, *Ratrijagarana*, *Ativyayama* and *Atichankramana*. 48% Patients in Group A were having normal weight. Overweight (28%) and obese (12%) patients were found more in number in Group C.

Overall 34.6% female patients were found to have low BMI, 16% overweight

and 8% were overweight. Out of total 75% female patients, 16% were overweight whereas 8% were obese according to BMI.

Basal Metabolic Rate is a tool indicating metabolic age of body. BMR is amount of energy expenditure in calories when the body is at rest for involuntary actions such as heart pumping, respiration, etc. BMR is observed below Normal level i.e. 1400 cal/day in Group A 88%, Group B and C at 80%. *Anashana*, *Upavas*, *Alpashana*, Irregular meal timings and intake excess oily food are found as the causative factors of low BMR. In Group A 12%, Group B 20% and Group C 20% females are observed with higher BMR. *Adhyashana*, *Avyayam* and *Shitvata Sevan* are the causative factors found for high BMR. In all 82.66% of 75 females are found with low BMR & 17.33% are found with high BMR. Patients with low BMR are found more than those with high BMR. Low BMR means metabolic age of body is more than actual age.

#### **Discussion:**

In this study, symptoms of *Akalaja Jara* were found dominantly between the age group of 28-50 years and started early since the age of 16 years indicating that proper care should be taken to avoid *Akalaja Jara* in *Madhyavastha* of life. It also strengthened the hypothesis that

*Akalaja Jara* is a phenomenon of concern in females in modern times. The signs and symptoms of *Akalaja Jara* indicate early wear and tear of bodily tissues which hampers the quality of life. The predominant *Prakriti* in the female patients suffering *Akalaja Jara* was *Vatapradhana - Pitta Prakriti* followed by *Pittapradhana Vata Prakriti*. Amongst *Tridosha*, *Vata* and *Pitta* are considered to be most dynamic as compared to stable *Kapha*. The *Sharir Dhatu* are constantly metabolized and new ones are formed.<sup>10</sup> This metabolism is mainly due to *Vata* and *Pitta Dosha*. Thus, their inherent predominance in *Prakriti* predisposes the *Dhatu* to accelerated wear and tear. If in such situation, balanced *Ahara* and *Vihara* are not followed, it resulted in *Akalaja Jara*.<sup>11</sup>

*Agni* is the reason of overall wellbeing of human body.<sup>12</sup> The *Jatharagni* is an indicator of status of other *Agni* like *Dhatvagni* in body.<sup>13</sup> Each transformation and metabolism process in body depends upon status of them. *Mandagni* needs to be tended carefully by proper *Laghu Ahara*.<sup>14</sup> If this is not followed, it gives rise to *Samata* in body and hampers *Dhatvagni* too. Impaired *Dhatvagni* give rise to improperly formed *Dhatu* and so on. *Vishamagni*

needs to be tended to same as *Mandagni* because of its fickle nature.<sup>15</sup> In modern times, *Ahara Vidhi* are not followed and condition of one's *Agni* is often ignored giving rise to many signs and symptoms of *Akalaja Jara*.

Working women were observed with symptoms of *Akalaja Jara* due to mental stress and *Atishrama* causing *Vataprakopa* by *Ruksha Guna*. Housewives were also affected due to not following regimen of *Aahar* and *Vihar* properly resulting into *Dhatukshaya*. In both the categories, mental load can be seen as main cause of *Manovaha Srotodushti*.

*Katu Rasasevana* was observed to be in excess in all 3 groups, especially in Group C which had a score of 408. Excess intake of *Katurasa* is responsible for *Vataprakopa* by its *Laghu*, *Ruksha Guna* and *Pittaprakopa* due to its *Ushna Guna*.<sup>17</sup> Overall consumption of *Lavanarasa* was significant in females of all three groups. Excess intake of *Lavanarasa* is responsible for *Pittaprakopa* and *Raktadushti* due to its *Ushana*, *Tikshna Guna* and *Sanghatabandha-vidhmapana* property. It causes *Khalitya*, *palitya*, *Vali*, *Dhatushaithilya*, *Shlathasaar*, *Daurbalya lakshanas* in *Akalaja Jara*. As it is *Achakshushya*, it causes *Drishtirhas* in middle age.<sup>18</sup>



Consumption of *Amlarasa* is found more in females in Group C. *Amlarasa* causes *Pittaprakopa* by its *Ushnaguna* leading to *Dhatushaithilya* which ultimately leads to *Shlathasarata*, *Shlathasandhi* and *Shlatha-asthi lakshanas* in Group C.<sup>19</sup>

In Group A, *Atisevan* of Bakery products, *Virudhaka*, Excess oily food *viruddhanna sevan* was found remarkably. Outside food, junk food intake was found more in this group. *Vidahi* and *Viruddhanna* vitiates *Pitta Dosha*, *Virudhaka Sevan* vitiates *Vata Dosha*.<sup>20</sup> In Group B, Excess oily food, *Vidahi Anna* and Bakery products, *Virudhaka* consumption was found more. Bakery products are *Vishtambhi* and *Guru* causing *Agnimandya* leading to *Aamnirmiti*, *Srotorodha* and *Rasavaha Sroto dushti*.<sup>21</sup> *Vidahi* and *Viruddhanna* vitiates *Pitta Dosh*, *Virudhaka Sevan* vitiates *Vata Dosh*. In Group C, *Paryushitanna*, *Virudhaka*, Bakery products, *Viruddhanna* & non-vegetarian food consumption was found more. *Paryushitanna* and *Viruddhanna* causes *Agnidushti* and *Raktadushti*.<sup>22</sup> *Virudhaka Sevan* vitiates *Vata dosha* by *Ruksha Guna*.<sup>23</sup> Bakery products & Non-vegetarian food leads to *Agnimandya* and *Srotorodha* resulting into *Meda Dhatu Dushti*.<sup>24</sup>

The ingestion of this inferior type of *Ahara* was many a time inevitable to these females because of social status. The easy food available outdoors is mainly *Vidahi* and *Viruddha* in nature. Also, *Virudhaka Ahara* was done for dieting which is a false trend. The social status of females has compelled them to these types of *Ahara* resulting in *Akalaja Jara*. *Adhyashana* causes *agnidushti* and vitiation of *Annavaha Srotas*.<sup>25</sup> These *hetus* cause *Atilanghana* leading to *Vataprakopa*, *Dhatukshaya* (esp. *Rasadhatu*) and eventually *Deha-Indriya Balahani*.<sup>26</sup>

*Avyayama* causes *Agnimandya*, which leads to *Aam Nirmiti* causing *Srotorodha* and *Srotos Dushti*.<sup>27</sup> *Avyayama* is also responsible for *Shaithilya* in *Mamsa*, *Meda*, *Asthi Dhatu* decreasing their *Bala* causing *Daurbalya* and *Parakramahani*. *Shitvata Sevan* causes *Vataprakopa* by *Ruksha Guna*. *Atapasevan* causes *Pittaprakopa* & *Twakparushya*.<sup>28</sup> *Atichankramana* (Excessive travelling) causes *Vataprakopa* leading to *Dhatukshaya*.<sup>29</sup> All these factors are eventually responsible for signs and symptoms of *Akalaja Jara*. *Diwaswap* causes *Agnimandya* which in turn leads to vitiation of *Kapha* and *Meda* and *Srotorodha*. *Ratrijagran* is found in Group B & A more than Group C. It

causes *Vataprakopa* by *Ruksha Guna* and *Pitta Vruddhi* leading to *Rasa Dhatu Dushti*. Both these factors are considered as abnormal sleep pattern. The body needs proper rest for all its functions to run smoothly. Sleeping in day hampers digestion process while late night sleeping hampers the restoration work of body tissues, giving rise to signs and symptoms of *Akalaja Jara*.<sup>30</sup>

The health of an individual depends on sound state of body as well as mind. Females are naturally more inclined to psychosomatic disorders. In this study, *Hetu Chinta* and *Krodha* were found more in all 3 groups. *Chinta* causes *Manovaha Sroto Dushti* which leads to *Rasavaha Sroto Dushti*.<sup>31</sup> *Hetu Krodha* causes *Pittaprakopa* and *Manovaha Sroto Dushti* due to increase in *Raja Guna*.<sup>32</sup> The dynamic nature of *Raja Guna* unsupported by stability of *Satva Guna*, hampers overall balanced state of mind. This phenomenon is commonly seen in females especially in perimenopausal age. Thus, all these altercations of state of mind lead to *Akalaja Jara*.<sup>33</sup>

*Rasavaha*, *Manovaha*, *Asthivaha*, *Artavavaha* and *Medovaha Srotas* were found to be affected predominantly with *Raktavaha*, *Mamsavaha* and *Majjavaha Srotas*. The *Hetu Sevan* caused *Agni-*

*dushti* leading to *Annavaha Srotodushti* and eventually *Rasavaha Srotodushti*. The *Srotorodha* and *Srotodushti* of other *Srotas* resulted into *Dhatukshaya*, which was observed contributing to the manifestation of disease. *Srotodushti* of *Rasavaha*, *Manovaha*, *Artavavaha*, *Asthivaha*, *Annavaha Srotas* was observed commonly in all three groups. So, *Palitya*, *Parakramahani*, *Vali*, *Agnisada*, *Slathasara*, *Shlathaasthi*, *Twakparushya*, *Prabhahani*, *Daurbalya*, *Drishtihras*, *Khalitya* were the *lakshanas* commonly seen in females of all three groups.<sup>34</sup> The *lakshana* of *Srotodushti* from group A and B are of major concern as they denote occurrence of signs and symptoms of ageing prematurely.

*Artavavaha Srotodushti* was observed in maximum number of females due to effect of *Rasavaha*, *Manovaha*, *Annavaha Srotodushti*. *Rajakshaya*, *Rajovridhi* and Irregular menses are observed as a Pre-menopausal Syndrome. This indicates *Rasadhatukshaya*, since *Raja* is one of the *Upadhatu* of *Rasadhatu*.<sup>35</sup> *Rajovridhi* was observed more in Group B. *Rajovridhi* occurs due to vitiation of *pitta dosha* by its *Ushna Tikshna Guna* and *Raktavahasrotodushti*.<sup>36</sup> *Anapatyata* (Infertility) was observed in 3 females in group B, 2 females in group C, and 1 in

group A due to *Artavavaha Srotodushti* and *Rasavaha Srotodushti*.

Average age of Menopause in Indian women is about 44 years. Early Menopause is due to *Rasadhatukshaya*. According to *Harita Samhita*, *Nashtartava* is *Vridhdha*. This means that, after Menopause, females become *Vridhdha*.<sup>37</sup> The occurrence of early menopause itself is suggestive of premature ageing. The *Artavavaha Srotas* is indicative of somatic as well as psychological well being of female body. Any type of changes in menstruation are due to and leading to major alterations in female body. It was in tune with appearance of signs and symptoms of *Akalaja Jara* in them.

*Palitya* and *Twakparushya* are seen to be the first visible signs of ageing indicating *Rasavaha Sroto Dushti*, *Vata Dosha Vriddhi* by its *Ruksha Guna* and *Pitta Dosha Dushti* by its *Ushna Guna*. *Twak Sneha* is *Mala* of *Majja Dhatu*. The increase in *Khara Guna* of *Vayu* and decrease in *Snigdha* and *Drava Guna* of *Kapha* lead to *Twak Parushya*.

Symptoms like *Vepathu*, *Shwasa*, *Kasa*, *Karmendriyahani* were not observed predominantly as these symptoms are seen more common in later adulthood, which was beyond scope of this study. *Twak* is sight of *Rasa Dhatu*. Due to

*Rasadhatukshaya*, vitiation of *Vata Dosha (Ruksha Guna)*, *Pitta Dosha (Tikshna Guna)*, depletion of *Kapha Dosha* by *Snigdha Guna*, *Vali* appeared.<sup>38</sup> The symptoms *Parakramahani*, *Shlathasaar*, *Daurbalya* due to *Dhatubalakshaya*, which was observed more in group C. *Khalitya*, *Shlatha-Asthi* were due to *Asthidhatukshaya* and *Vatadoshavruddhi* and depletion of *Kapha Dosha* by its *Snigdha Guna*. *Drishti Rhas* is due to vitiation of *Pitta Dosha (Ushna, Tikshana Guna)*. *Medhahani* is observed in group C due to *Manovaha Sroto Dushti*.

It is well known that *Sapta Dhatu* become gradually depleted when aging proceeds. In premature aging, the process of depletion takes place in accelerated manner giving rise to early symptoms of aging as evident from above mentioned signs and symptoms.<sup>39</sup> *Rasadhatudushti* was significantly observed in the form of *Rasadhatukshaya* in all 3 groups. *Rasadhatukshaya* causes *kshaya* of other *dhatu*s resulting in *Dhatubalakshaya*, *Daurbalya* and *Parakramhani* in patients. *Rasadhatukshaya* leads to *Vali*, *Palitya*, *Agnisaad*.<sup>40</sup> *Asthidhatukshaya* leads to *Khalitya*.<sup>41</sup> *Rasadhatukshaya* along with *Raktadhatukshaya* leads to *Rajakshaya*. *Mamsadhatukshaya* leads to *Daurbalya*, *Shlathata*.<sup>42</sup> *Mamsadhatukshaya* along

with *Medadhaturkshaya* causes *Krushata* whereas *Medadhatuvruddhi* leads to *Sthaulya*.<sup>43</sup>

Overall 34.6% female patients were found to have low BMI, 16% overweight and 8% were obese. Out of total 75% female patients, 16% were overweight whereas 8% were obese according to BMI. It indicates that female patients with low BMI are more prone to get *Akalaja Jara*. *Diwaswap*, *Avyayama*, *Adhyashana* and irregular meal timings were found as aetiological factors in overweight and obese patients.<sup>44</sup> BMR is observed below Normal level i.e. 1400 cal/day in Group A 88%, Group B and C at 80%. *Anashana*, *Upavas*, *Alpashana*, Irregular meal timings and intake excess oily food are found as the causative factors of low BMR. Patients with low BMR are found more than those with high BMR. Low BMR means metabolic age of body is more than actual age.

### Conclusion:

*Hetus* responsible for progression of *Samprapti* and manifestation of symptoms are:

- i. *Aaharaj Hetu*: *Atisevan* of *Katu*, *Lavan* and *Amla Rasa*, *Atisevan* of *Paryushitanna*, bakery items and *Vidahi Anna*

- ii. *ViharajHetu*: *Avyayam*, *Shit-Vatasevana*, *Ratri-Jagaran*, *Atichankramana*

- iii. *ManasHetu*: *Krodha*, *Chinta*

*Vata* and *Pitta* are the *doshas* responsible for *Samprapti* of the disease.

Females with *Vatapradhan Pitta* or *Pittapradhan VataPrakriti* are more prone to get *AkalajaJara*. *Lakshanas* of *AkalajaJara* get starts appearing before 40 years of age. *Palitya*, *Twakparushya*, *Agnisaad*, *Parakramahani*, *Prabhahani*, *Khalitya*, *Drishtirhas*, *Shlathasar* and early menopause are the *Lakshanas* of *AkalajaJara*. *Agnidushti*,

*Dhatvagnimandya*, *dushtiofRasavaha*, *Annavaha*, *Manovaha* and *Asthivaha Srotas* leading to *Dhatukshaya* are cumulatively responsible for the manifestation of *Lakshanas* of *Akalaja Jara*. Females with early puberty or early menopause are more prone to get *Akalaja Jara*. Females with low BMI and low BMR are more prone to get *Akalaja Jara* than those with high BMI and high BMR. Thus, incorrect modern lifestyle, dietary habits & mental stress play major role in *Akalaja Jara* in females.

Thus, the study entitled, **Study of Etiopathogenesis of 'Akalaja Jara' in Females in Modern Times** concludes that, aging in females is determined by lifestyle, dietary habits, mental makeup,

and even environmental factors in addition to the genetic factors. Faulty dietary habits, lifestyle, and stressful living may wrongly influence biological aging of females which is the sole indicator of health and age-associated diseases arising due to *Akalaja Jara*.

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