



A comprehensive review of the factors responsible for AkālaJa Jarā (Premature Aging)

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“Rūjatēti Rogāu”¹ means which produces pain or difficulties to the body or mind is known as disease. According to Ācārya Suçruta, the diseases are of four types² - Disease due to immediate cause (Āgantuja Vyādhi), Disease of body (çārērika Vyadhi), Disease of mental faculty mind (Mānasika Vyādhi) and Natural disease (Svābhāvika Vyādhi).

Jarā, is a Natural Disease which occur due to Kāla.³ Old age is occurring at a good pace among all the peoples of the world now a days, so it is due cause of shortened life-span. Ayurveda has an own peculiar view about Jarāvasthā, in which the aging is depends upon several factors. The factors responsible for it are well described in āyurveda. If we find out these factors in our life-style, then premature aging can be delayed.

Keywords: Jarā, Jarāvasthā, Aging, Āyurveda

Introduction:

All the Ācārya have considered the jarā at the age of 60\70 years⁴. According to Modern science, the old age is considered at 60 years onwards. The cutoff point prescribed by United Nations from 60 years onwards all individuals are elderly irrespective of the age they attain. However, recent studies carefully conducted in physiology, biochemistry and epidemiology have confirmed that all the age individuals cannot be put into one homogenous group.

Young old – Age between 60-75 years

Old – Old – Age between 75-86 years

Very old – Age between 86- above

The first age category is physically active & mentally alert and in most cases they are dependent on others while the 3rd category needs all type of support, health, being the major one.

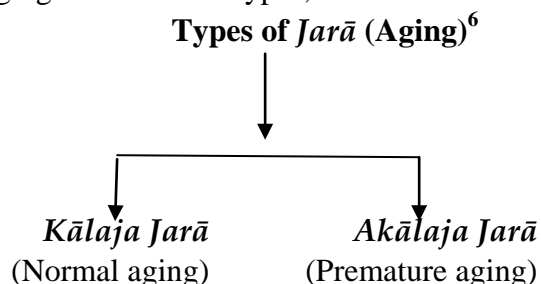
To summaries the old age considered by Ācārya Caraka⁵, 60 years and onwards is seems to be similar to that of modern science which is accepted worldwide.

Review:

Jarā (Aging) is Old age which is an undesirable, inevitable phase of human life. The onset of sign & symptoms of aging is evident at the age of 60 (a stage of old age) as explained above.

Type of Aging:

The decline of each organ, system appears to occur independently of change in the other organ system & is influenced by diet, environment and personal habits as well as genetic factors. Hence the life science of āyurveda has classified the aging into different types, as follows-



KālaJa Jarā (Normal aging):-

Ācārya Suçruta has categorized the *svābhāvabalapravāta vyādhi*⁷ into two types i.e. *Kālaja* (Timely occurring) and *Akālaja* (Untimely occurring), *Jarā* is one among them. *Òalhaëa* opines that, *Kālaja*⁸ means “*Ye samaye prāptā bhavanti*” i.e. one which occurs timely. Hence appearance of sign & symptoms of Aging at a particular scheduled age is considered as *Kālaja Jarā* i.e. Normal aging.

Ācārya Suçruta opines that this type of aging is inevitable and there are no causative factors exist as such to prevent its occurrence, hence he called it as “*parirakñāëakātū*”⁹ that means it occurs even by following preventive health care measures.

Ācārya Caraka also opines that the person who will follow strictly the health care measures like *dinacaryā* (Daily regimens), *ātucaryā* (Seasonal regimens) and *hitavastusevana* (good nutritional practice) etc. He wills going to attain the *kālamātyu*¹⁰ i.e. Senescence followed by death at a particular scheduled time in his life span, such type of aging is considered as *niyatāyu* (scheduled Aging).

Ākālaja Jarā (Premature Aging)

Ācārya Suçruta opines this type of aging is acquired one Hence he called it is

“*Aparirakñāëakātū*” that means it occurs by following improper health care measures.

*Òalhaëa*¹¹ explained that, *Akālaja* means, “*Asamaye Jātā*”¹¹ i.e. one which occurs untimely. Hence appearance of sign & symptoms of aging prior to scheduled age is considered as *Akālaja Jarā* (Premature aging)

Ācārya Caraka opines that the process of aging will be accelerates in individuals who follow the improper health care measures and an individuals are prone to have “*Akālamātyu*”¹² i.e. senescence followed by death prior to the scheduled age. Such type of aging is considered as *aniyatāyu* (Unscheduled aging).

Cakrapāëë considered the occurrence of premature aging in persons having features of short life span (*avarāyu*¹³).

Etiology of Premature Aging:-

According to Mādhavakara¹⁴

- (i) *Panathanam atigamanam* – Excessive walking
- (ii) *Atiśītasevana* – Excessive cold intake
- (iii) *Kadanna sevana* – Improper food consumption
- (iv) *Vṛddhānganāsatañgamanāt*– Excessive indulgence in sex with elderly wife
- (v) *Manahpratikūla* – Mental stress

The etiological factors of *Akālamṛtyu* (untimely death) may be considered as etiological factors for premature aging.

Etiology of Akālamṛtyu¹⁵ –

- (i) *Ayathābala māarambha* – Over strain
- (ii) *Ayathāgnyabhyaaharaṇa* – Eating in excessive of one’s own digestive power
- (iii) *Vishamas abhyavaharane* – Irregular meals
- (iv) *Viṣamaśarīranyāsād* – Irregular posture of the body
- (v) *Atimāithuna* - Excessive indulgence in sex
- (vi) *Asatsamśraya* – Associated with wicked person
- (vii) *Vidhāryavegāvidhāraṇād* – Non-suppression of suppressible urges
- (viii) *Udirṇavegavinigrahād* – suppression of Non-suppressible urges
- (ix) *Bhūtaviṣavāyavagnyupatāpād* – Application with evil spirit, poison wind & fire
- (x) *Abhighāta* – Exposure to injury
- (xi) *Āhārapratikāravivarjanāt* – Avoidance of food & medicine

Pūrvārūpa of Akāla Jarā¹⁶ -

- (i) *Śaktikṣīnatā* – Diminution of strength
- (ii) *Smṛtināśa* – Diminution of memory
- (iii) *Glāni* – Lethargy
- (iv) *Valī*– Wrinkling of skin
- (v) *Pāliya* – Grey hair
- (vi) *Dhātuśaithilyatā*– Flabbiness of body tissue
- (vii) *Svābhāvaviparyaya* – Change of Habit

Modern medical science opines that the onset of aging may be variable and is influenced by diet, environment and personal habits as well as genetic factor.

It is important to appreciate that some features of aging are age determined, that is they are inevitable while other are age related, that is they result from an accumulation of factors such as lack of exercise or poor diet or are accelerated by habits such as cigarette smoking, heavy alcohol, consumption or over exposure to sun light.

To summaries the concept of normal and premature aging are similar according to *āyurveda* and modern science. There are no causative factors exist for *Kāla Jarā* where as *Akāla Jarā* has got factors like-diet environment, personal habits and genetic factors, which accelerate the aging process and hence premature aging.

Factors Responsible For Kalaja Jara (Normal Aging)

It is evident that *Jarā* is of 2 types i.e. Natural & Premature. There is particular etiology for premature aging but no separate etiology mentioned in the classics for natural aging why because it is naturally occurring phenomenon. Even in modern science in spite of. So much advancement of the reason for this is not known. This makes us to analyses same point which are responsible for *Jarā*. They can be analyzed as follows by considering the classics:-

Factors responsible for *Jarā* are:-

- (i) *Svābhāva* (Natural Factors)
- (ii) *Kāla* (Time Factors)
- (iii) *Vāta* (One of three Physiological Humors essential for body)
- (iv) *Śarīravṛddhikarabhāvābhāva* (Depletion of growth factors)

1. Svābhāva (Natural Factors)

Jarā is one amongst the *svābhāvabalapravṛtta vyādhi*.

Svābhāva means:- *Svābhāvaśabdenādr̥ṣṭamucyate* |¹⁷

Svabhāva Sarvasya Prakṛtiṁ Kāraṇamūcuḥ |¹⁸

I.e. the invisible nature's unique process can be called as *Svābhāva*, *Ācārya Caraka* in his *Svābhāvoparamavāda* explained that there is a causative factors for the manifestation of being but no causative factors as such exists for their deterioration. That means the process of deteriorations occurs naturally at its continuous pace which is not change by any medicine or substance¹⁹.

The *Svābhāva* can be considered as responsible factors in the causation of *Jarā* (Aging) which is deteriorating, invisible and nature's unique process.

2. Kāla (Time Factors)

*Kālasya Pariṇāmena Jarāmṛtyunimittajāḥ*²⁰

Ācārya Caraka explained that *Jarā* is a phase of life that occurs by the effect of time (*Kāla*)

Kalayti Mṛtyusamīpani Nayati Iti Kālaḥ ²¹

Āḍhamalla, the commentator of *Śāraṅadhara Samhitā* opines that the factors which takes to the end of life i.e. *Kāla*.

Thus it can be summarized as, the growth & senescence occurs naturally as time passes *Kāla* is accepted as responsible factors for *Jarā*.

3. Vāta (One of three Physiological Humors essential for body)

Ācārya Caraka while explaining *Saṅkhyāśārīram* explains that, the body is made up of *paramāṇus*²² (Billion of cells of numerous types) which are *atibahu* (innumerable), *atisūkṣma* (microscopic) and *atīndriya* (Not visible to our senses).

*Cakrapāṇī*²³ commenting on the above reference opines that as these *paramāṇus* (cells) undergo the process of *saṁyoga* i.e. fertilization, multiplication and specialization into various organ and physiological system the life of human individuals begins and beginning of *viyojaka karma* of these *paramāṇus* i.e. slowing down of growth and replacement of cells bring out the deterioration (*vinasha*). *Cakrapāṇī*²⁴ further opines that these processes occur naturally with the help of functional unit of *vata* because the *saṁyoga* and *viyoga* are the functions of the *vāta*. Here nature (*Svābhāva*) is responsible factors for the functioning of *vāta*.

From the explanations it is clear that, the process of growth & senescence are natural and *vata* is nature is functional unit.

4. Śarīravṛddhikarabhāvābhāva (Depletion of growth factors)

Human life span can be broadly divided of 2 phase i.e. growth & senescence (Deterioration)

Ācārya Caraka mentioned four factors²⁵ for the presence of which represents the growth where as the absence representing the senescence. Those are as follow –

- (a) *Kāla Yoga* (Time bounded phenomenon)
- (b) *Svābhāva Saṁsiddhi* (Natural factors)
- (c) *Āhārasauṣṭhava* (Diet)
- (d) *Avighāta* (Avoiding physical and mental stress)

(a) *Kāla Yoga* (Time bounded phenomenon)

(b) *Cakrapāṇi*²⁶ says that up to the age of 70 years the youth phase it is the time bounded factors (i.e. *Kāla Yoga*) which enables the body to attain growth. Exactly opposite to above the body attains senescence (After in age of 70 years) leading to senility.

*Ācārya Caraka*²⁷ considered the age up to 30 years as growth period and senescence after the age of 60 years where as *Ācārya Suśruta*²⁸ considered growth up to the age of 20 years maturity (*Sampūrṇatā*) up to 40 years, senescence 40-70 years and senility after age of 70 years.

Modern sciences also agree that the fully grown adult stage is reached between 20-25 years most of the function reaches peak activity at this stage. This is followed by senescence when various functions begin to decline. Hence the growth and senescence are the resultant of the *kāla yoga* i.e. Time bounded phenomenon.

(c) *Svābhāva Saṁsiddhi*²⁹ (Natural factors)

svābhāvasaṁsiddhiḥ svābhāvaḥ svaḥ svaḥ tena saṁsiddhiḥ |

i.e. which happens naturally. The invisible (*Adṛṣṭa*) is nature's unique process which is a responsible factor for both growth and senescence of the body.

(c) *Āhārasauṣṭhava* (Diet)

Diet is possibly the most important factors in the contracting the aging process and even in its onset.

Ācārya Caraka opines that *Āhārasauṣṭhava* / *āhārasampad*³⁰ (qualitative aspect of food) is responsible for the proper growth and development of the body. Whereas the *mātrā āhāra*³¹ (qualitative aspect of the body and caloric limitation) is responsible for healthy aging and longevity (*dīrghāyu*). It can be assumed that opposite to the above diet, produce pathological aging & shortens the span of life.

Recently the studies conducted on micronutrients a particular diet is responsible for diet related chronic clinical disorder and caloric restrictions are as follows:-

Micronutrient:-

The Micronutrient like selenium and zinc, vitamin A, C, E, provitamins like beta-carotene, lycopene. Commonly found in vegetables and fruits known as antioxidants have been found helpful in keeping the elderly healthy and even in the onset and progression of aging process & vice versa.

Diet responsible for diet related chronic clinical disorder:-

Diet like saturated fats, fried food, food containing large amount of cholesterol, red meat with saturated fat etc. have been found to be responsible not only for producing chronic clinical disorder but also for the process of Aging.

Caloric restriction:-

The amount of oxidative damage as an organism ages and is postulated to be a major causal factor of senescence. Caloric restriction lower the level of oxidative stress and damages retards age associated changes and extends the maximum life span in mammals. Caloric restriction reduces the age associated accumulation of oxidative damaged proteins, lipids and DNA. It also prevents many of the changes in gene expression and transcription activity that normally occur with aging.

Hence it can be summarized that, the diet has got definite role in the process of aging, longevity and healthy aging. The concept of *āhārasampad* speaks out the qualitative aspects of diet which includes the

micronutrients (Antioxidants) etc. and *mātrā āhāra* which speaks about the quantitative aspects of food in which caloric restriction can be included.

But logically speak the diet has got definite role in *Akālaja Jarā* (premature aging) because it occurs by the faculty preventive measures where as *Kālaja Jarā* (Natural aging) occurs even by preventive measures.

(d) *Avighāta*³² (Avoiding physical & mental stress):-

Chakrapani says that for the proper growth and development it is necessary to avoid physical & mental stress. Hence it can be summarized that *avighāta* may helpful in achieving longevity and *vighāta* (Stress) is responsible for *Akālaja Jarā*. It has no definite role in the manifestation of natural aging.

Discussion:

The necessity of discussion regarding, aging is that, in a large percentage of elderly individual's diet related metabolic disorder are the real causes of mortality. The common conditions are Hypertensions, coronary heart disease, cerebro-vascular accidents and malignancy. Preventing the onset of these diseases mostly by dietary managing and adopting proper life style will ensure that aging remains physiological and not converted into a pathological condition which leads to death.

Conclusion:

From the above explanations, it can be concluded that *Svābhāva*, *Kāla*, *Vāta* and *Çarāvāddhikarabhāvābhāva* are the factors responsible for *Jarā*. If one will follow the proper diet regimen in a proper way, then he will be able to maintain the healthy life.

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