

## CRITICAL ANALYSIS OF A REJUVINATING DRUG: AMLAKA RASAYAN

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### ABSTRACT

*Emblica officinalis* Gaertn. or *Phyllanthus emblica* Linn, commonly known as Indian gooseberry or *Amla*, is arguably the most important medicinal plant in the Indian traditional system of medicine, the Ayurveda. Various parts of the plant are used to treat a range of diseases, but the most important is the fruit. The fruit is used either alone or in combination with other plants to treat many ailments such as common cold and fever; as a diuretic, laxative, liver tonic, refrigerant, stomachic, restorative, alterative, antipyretic, anti-inflammatory, hair tonic; to prevent peptic ulcer and dyspepsia, and as a digestive. Studies have shown that *Amla* possesses immunomodulatory, anti-cancerous, hepatoprotective properties etc.

*Amalaka Rasayana* (AR) is a common Ayurvedic herbal formulation of *Phyllanthus emblica* fruits with other ingredients and is used for general good health and delayed aging. There are many effects of *Amalaka Rasayan* which are not known to common people which helps to attain long and healthy life, maintenance of youth and deceleration of ageing, great *Bala* (a broad term, which includes physical, mental strength and immunity) all are obtained by use of *Amlaka Rasayana*.

**KEY WORDS:** Amlaka Rasayan, *Emblica officinalis*, Amla, Anti-cancerous, Hepatoprotective

### 1. INTRODUCTION

*Emblica officinalis* Gaertn. (Amla or Indian Gooseberry) belongs to Euphorbiaceae Family. *Amla* fruits are Acriid, cooling, refrigerant, astringent, diuretic and laxative. *Amalki* seeds are used for asthma, bronchitis and biliousness. *Emblica officinalis* fruits contain ellagic acid,

gallic acid, quercetin, kaempferol, emblicanin, flavonoids, glycosides and proanthocyanidins. Vitamin C, tannins and flavonoids present in *Amla* have very powerful immunomodulatory, anti-oxidant and anti-cancer activity. *Amlaki* is considered as best among *Vaya* (*Ayu*) *Sthapanan* drug according to Ayurved. *Amalaka Rasayana* (AR), an Ayurvedic formulation used in Indian traditional system of medicine since ages. AR is a common Ayurvedic herbal formulation of *Phyllanthus emblica* fruits with other ingredients and is used for general good health and healthy aging. AR is one of the prominent herbal formulations described in many Ayurvedic classics like *Charak Samhita* and *Ashtang Hridaya* etc indication is to be widely used in view of the claim that it enhances life expectancy, body strength, intellect, fertility and reduces age-related debilities.<sup>[1]</sup> *Amalaka Rasayana* is prepared from fruits of *Amla* or Indian gooseberry (*Phyllanthus emblica*, synonym *Emblica officinalis*) with some other ingredients through a specific and elaborate process.

## 2. Method to Prepare *Amalaka Rasayan*

The fruits of *Haritaki* and *Amalaka* or *Amalaka* and *Bibhitaka* or *Haritaki* and *Bibhitaka* or *Haritaki*, *Amalaka* and *Bibhitaka* should be wrapped with the bark of *Palasha* tree and after have been pasted with mud should be cooked on charcoal. (when they are well cooked) their seeds be removed and 40 kg of this material should be pounded in a mortar and added with curd, ghee, honey, sesame paste, *Tila* oil and sugar. This should be consumed on empty stomach. After the course of treatment, one should be brought back to its normal state by intake of gruel etc. he should also be massaged and anointed with ghee and barley powder. This is the limit of the use of the *Rasayana*. Keeping in view the power of digestion, one should be given diet consisting of *Sastika* rice added with ghee along with soup or milk for the period double of the same for treatment. Thereafter one may move and eat according to pleasure. By this treatment, the sages regained youthfulness and attained disease free life of many hundreds of years, and endowed with the strength of physique, intellect and sense practiced penance with utmost devotion.<sup>[2]</sup> Proper and regular consumption of AR helps to attains *Deergha Ayu* (longevity), *smriti* (memory), *Medha* (intelligence), *Arogya* (freedom from illness), *Taruna Vaya* (youthfulness), *Prabha* (excellence of lustre), *varna* (complexion) and *Swara* (voice), *Deha Indriya Balam Param* (optimum strength of physique and sense organs), perfection in deliberation, respectability and brilliance.

### 3. Amlaka Rasayan in Pandu

Iron deficiency anaemia (IDA) is one of the most common nutritional deficiencies worldwide, which can be correlated to *Pandu* described in ayurvedic classics. Poor absorption of iron is one of the main reasons of IDA. *Amalaki* (*Phyllanthus emblica* L.) has *Tridoshahara*, especially *Pittashamaka* (pacifying *Pitta*) and *Rasayana* (rejuvenative) properties, thus nourishes the *Dhatus* and is also known to enhance the absorption of iron. Anaemia is a ubiquitous health problem marked by the reduction of oxygen carrying capacity of hemoglobin (Hb). Hematocrit goes below the reference range of values occurring in healthy persons,<sup>[3]</sup> affects a major population. According to World Health Organization (WHO) Global Database on Anaemia. “Worldwide Prevalence of Anaemia 1993–2005”, it affects 1.62 billion people who correspond to 24.8% of the population.<sup>[4]</sup> Since anaemia is the most common indicator used for iron deficiency, the terms anaemia and iron deficiency anaemia (IDA) are sometimes used interchangeably. Iron deficiency is ranked at the top of three global hidden hungers with about one fifth of the world’s population is suffering from IDA.<sup>[5]</sup>

According to Ayurveda, body comprises of seven dhatus, which are responsible for sustenance of the being. Amongst them the first dhatu i.e. Rasa has given more importance. Any imbalance in *Dhatu* will lead to imbalance in further *Dhatus*. Its own functioning depends on the *Agni*, which if vitiated will lead to its vitiation too. In *Charaka Samhita* after the description of the concept of *Agni*, *Ajirna*, *Aama*, etc., the next chapter *Pandu* has been described, which is a *Rasapradoshaja* condition. The main approach for treating anaemia is iron supplementation without correcting the metabolism. However, besides the lack of iron in diet, one of the main reasons of IDA is poor absorption that needs correction at the prime level. *Pandu* is a *Pitta* dominant *Tridoshaja* disorder with involvement of vitiation of *Rasavaha Srotas*. The symptoms of *Rasavaha Srotas* vitiation are similar to symptoms of aggravated *Kapha*. Thus, to reverse the *Samprapti* (pathogenesis) such formulation is needed which can counteract *Pitta Kapha* and act at *Srotas* level and correct the metabolism thereby increasing iron absorption. Since *Amalaka Rasasyana* is having *Tridoshaghna*, especially *Pitta Shamaka* (pacifying *Pitta*) property, *Rasayana* (rejuvenative), *Shonitsthapana* property and also have the capability to increase the bioavailability of iron, hence, it is proved to be the best drug for management of *Pandu* (IDA).

#### 4. Anti-oxidant activity of *Amlaka Rasayan*

Diseases are mainly due to the imbalance of pro oxidant and anti-oxidant haemostatic phenomenon in the body. Pro-oxidant condition dominates either due to increased generation of free radicals or their poor scavenging into the body. Free radicals are the fundamental to any biochemical process and represent an essential part of the aerobic life and our metabolism. They are continuously produced by body, such as respiration and cell mediated immune functions. There is a dynamic balance between the amount of free radicals generated in the body and anti-oxidant to scavenge them and protect the body against the deleterious effect. Thus the oxidant status in human reflects the dynamic balance between the oxidant defence and pro- oxidant condition.<sup>[6]</sup> *Amalaki* is used to protect the skin from devastating effect of free radical, non-radicals and transition metal induced oxidative stress. It is suitable for use in anti-ageing, skin care products and as sunscreen. *Amalaki* contains tannoid principle comprising of emblicanin A, emblicanin B, punigluconin and pedunculagin which have been reported to possess antioxidant activity in vitro and in vivo. Ellagic acid as the powerful antioxidant present in *Amalaki* has the ability to inhibit mutations in genes and repairs the chromosomal abnormalities.

#### 5. Immunomodulatory activity of *Aamlaka Rasayan*

Ayurvedic system of medicine has suggested means to increase the body's natural immunity to fight against disease, the principles of which have been emphasized under the heading of *Vyadhi Ksamatva*.<sup>[7]</sup> A number of medicinal plants individually or in combinations have been claimed to possess immunomodulatory activity. *Amalaki* (*Emblica officinalis* Gaertn), one of such plants is mentioned as a *Rasayana* drug in classics.<sup>[8]</sup> Certain researches of the recent past also revalidate the antioxidant and immunomodulatory activities<sup>[9]</sup> of crude extract of *E. officinalis* fruit. Recent study reported the *in vivo* effects of "*Amalaki Rasayana*" in *Drosophila melanogaster* on median life span, developmental time, starvation tolerance, etc.<sup>[10]</sup> Different types of *Amalaka Rasayana Prayoga* have been mentioned in various Ayurvedic classics *Amalaki* (*Emblica officinalis*) is one such drug. Researches with crude extracts of *Amalaki* have proven the antioxidant and immunomodulatory activities. Immune activation is an effective as well as protective approach against emerging infectious diseases. *Amalki* has been reported to inhibit chromium induced free radical production, and it restored the anti-oxidant status back to control level. It also inhibits the apoptosis and DNA fragmentation induced by chromium. It relived the immunosuppressive effect of chromium on lymphocyte proliferation, and even restored the IL 2 and gamma IFN production.<sup>[11]</sup>

*Amalki* and *Shankhpushpi* were assessed for immunomodulatory activity in adjuvant induced arthritic (AIA) rat model. Complete Freund's Adjuvant (CFA) was injected in right hand paw of the animals induced inflammation. Lymphocyte proliferation activity and histopathological severity of synovial hyperplasia were used to study the anti-inflammatory response of both the extract, which showed a mark reduction in inflammation and oedema, and caused immune suppression in AIA rats, indicating that these drugs may provide an alternative approach for the treatment of arthritis.<sup>[12]</sup>

## 6. Anti Cancerous activity of Aamlaka Rasayan

*Amlaki* inhibits the growth and spread of many cancers including breast, uterus, pancreas, stomach and liver cancers, and malignant ascites. It reduces the side effect of chemotherapy and radiotherapy.<sup>[13]</sup> *Amalki* has been proved to reduce the cytotoxic effects in mice dosed with carcinogens.<sup>[14]</sup> *Amalki* has been reported to possess many medicinal properties, including immune stimulator and anti-tumour activities.<sup>[15]</sup> *Amla* fruit contains 18 compounds that inhibit the growth of tumour cells such as gastric and uterine cancer cells. It enhances the natural killer (NK) cell activity in various tumours. Its extract reduces the ascites and solid tumours induced by Dalton's lymphoma ascites cells in mice. The extract also increases the life span of tumour bearing animals. *Emblicanins A* and *B* (tannins) present in *Emblica officinalis*, have been reported to possess strong anti-oxidant and anti-cancer properties.

## 7. DISCUSSION

*Amalaki* pacifies *Kapha* and *Pitta*. It moves out the accumulated *Dosha* and *Mala*, thus helps to maintain patency and proper functions of *Srotas*. It also activates *Dhatvagni*. *Amalaki* provides nourishment to *dhatu*s (body tissues), and due to proper function of *Srotas*, removes obstructions and helps the nutrients to reach to the *dhatu*s. Also, by activating *Dhatvagni*, it helps in proper conversion of nutrients into *dhatu*s. Because of these actions, *Amalaki* is very important *Rasayana*. *Amalaka Rasayan* was used by many people from ancient time to attain youthhood and that too diseased free so that they can achieve good health, *buddhi*, *Indriya* and *Bala*. *Amalaka Rasayan* should be consumed by *Kuti Praveshik Vidhi* to get the best results out of it. The time period for which AR is consumed *Sansarjan Karma* should be followed double the days of it. *Amalaka* is the chief ingredient of *Chyavanaprasha Rasayana* as *Chyanaprasha* is prepared from the pulp of *Amalaki* fruits. It is specifically useful for maintaining youth and vigor. It helps to build body tissues in children, old and emaciated

persons. Ignites *Agni* and Improves beauty. Also useful in disorders of voice, diseases of chest, heart diseases, and disorders of urinary tract and genital organs. In old days the healthy lifestyle and the ancient sages were free from diseases. But diseases originated due to urbanization and thereby changing lifestyle. this description of AR is even more important in present era, because many of the dietary articles and the activities mentioned here have become common now like more consumption of salt, sour and pungent items, sprouted grains, dried vegetables and meat, sleeping in day time, irregular timings of meals, irregular improper and excessive exercises and physical activities, using unhealthy combinations like milk with salty and sour items, or milk with fruits, continuously affected by anger, grief, greed fear like mental states etc. This results in diseases with laxity in muscles, muscular dystrophies etc., diseases of bone marrow, joint disorders, impotency and infertility and so on. Hence, by following proper healthy lifestyle and by the use of *Rasayana*, one can get freedom from such diseases. Therefore, thorough study and application of *Rasayana* is needed in the present era for rejuvenation.

## 8. CONCLUSION

*Amalka Rasayan* has been said to be useful against many severe diseases include cancer, hepatic disease, anaemia etc. different biological activity of *Amla* includes immunomodulatory, anti-cancer, cytoprotective, analgesic, anti-microbial, hepatoprotective, antipyretic etc. The present article emphasizes particularly on the *Amlaka Rasayan* and its rejuvenating effect along with its immunomodulatory effect, anti-cancerous effect and its effect on anaemia. AR should be consumed by *Kuti Praveshika*. The person should stay in a *Kuti* (specially built house) for a specific period and use AR to attain all the benefits of AR. It is now realised that majority of the diseases are chiefly due to the imbalance between pro oxidant and anti-oxidant haemostatic phenomenon in the body, and *Amla* balances it due to its anti-oxidant properties. *Amla* has immunostimulatory as well as protective effects against many emerging infectious diseases. *Amlaka Rasayan* is a miracle in the field of pharmaceuticals. And hence to be consumed on regular basis to maintain healthy and disease-free life.



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