A REVIEW ON:- MEDICINAL USE OF “AMULA”

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ABSTRACT: The preventive efficacies and safety of Emblica Officinalis Gatertn (Amla), a most important and extensively studied plant in the traditional Indian Ayurvedic system of medicine, are presented. Eligible healthy adult subjects (n = 15) were randomized to receive either amla or placebo (500 mg per day) during an 18-week study. The efficacy parameters evaluated were the vascular function, blood hematology, oxidative and inflammatory biomarkers, glucose and lipid profiles, urinalysis, and liver hepatotoxicity. The amla intake showed significant improvements in the primary efficacy parameter of blood fluidity. There were also improvements in the secondary endpoints including lowering of von Willebrand factor (vWF), reduced 8-hydroxy-2′-deoxyguanosine (8-OHdG) as well as thrombin (TM) biomarkers of oxidative stress along with a significant improvement in HDL-cholesterol and lowering the LDL-cholesterol levels. No substantial changes were observed in liver hepatotoxicity, urinalysis, and hematology after consumption of amla compared to baseline or placebo. In addition, no adverse events, changes safety parameters or tolerance issues were observed after consumption of amla. In conclusion, amla supplementation showed acceptable palatability, improved endothelial functions and reduced oxidative stress.

INTRODUCTION: Amla (Emblica officinalis) (EO) has a hallowed position in Ayurveda-an Indian indigenous system of medicine1. According to belief in Indian mythology, Amla is the first tree to be created in the universe; which belongs to the family of Euphorbiaceae and is also known as Phyllanthus emblica or Indian gooseberry [1]. Amla is native to India and also grows in tropical and subtropical regions of Pakistan, Uzbekistan, Sri Lanka, South East Asia, China and Malaysia [1]. The fruits of Amla are widely used in the Ayurvedic preparation and are believed to increase defence against diseases [2]. It has a beneficial role in degenerative diseases like cancer, diabetes, liver treatment, ulcer, anemia, heart trouble1 and also is an important constituent in hepatoprotective formulas available2. Amla is highly nutritious and is one of the richest sources of vitamin-C, amino acids and minerals [3]. It contains several chemical constituents like tannins, alkaloids and phenols.4 among all hydrolysable tannins, Emblicanin A and B; gallic acid, ellagic acid are reported to possess biological activity. Almost all parts possess medicinal properties, particularly fruit, which has been used in Ayurveda as a powerful rasayana and in customary medicine in the treatment of diarrhoea, jaundice, inflammation and several other ailments [5]. Amla fruit is widely used in the Indian system of medicine as alone or in combination with other plants and is used to treat common cold and fever, as diuretic, laxative, liver tonic, refrigerator, stomachic, restorative, anti-pyretic, hair tonic; to prevent ulcer and dyspepsia.
CLASSIFICATION

**Kingdom:** Plantae

- Division: Angiospermae
- Class: Dicotyledonae
- Order: Geraniales
- Family: Euphorbiaceae
- Genus: Emblica
- Species: officinalis Geartn.

**Vernacular names**
- English: Emblic myrobalan
- Indian Goose berry
- Sanskrit: Aamalaki
- Hindi: Amla
- Kannada: Nelli Kayi
- Marathi: Aml

**MORPHOLOGY:** Amla tree is a small to medium sized deciduous tree with an average height of 8-18 m, with thin light grey bark exfoliating in small thin irregular flakes, exposing the fresh surface of a different color underneath the older bark. The average girth of the main stem is 70 cm. In most cases, the main trunk is divided into 2 to 7 scaffolds very near to the base [22]. Leaves are 10 -13 mm long, 3 mm wide, closely set in pinnate faishon3 which makes the branches feathery in general appearance. After setting of the fruits leaves develop. Flowers are unisexual, 4 to 5 mm in length [23], pale green in color, borne in leaf axils in clusters of 6 to 10. Fruits are fleshy, almost depressed to globose shape, 2.1-2.4 cm in diameter, 5.3-5.7 g in weight, 4.5-5.0 mL in volume. The stone of the fruit is 6 ribbed, splitting into three segments [23] each containing usually two seeds; seeds are 4-5 mm long and 2-3 mm wide, each weighing 572 to 590 mg [23-24].
Chemical Constituents: Amla is one of the most famous and largely studied plants. The study of research shows that it contains a large number of biochemical components, especially alkaloids, phenols, and tannins [23]. Approximately 28% of tannin of the entire plant exists in the fruit. This tannin is present in two hydrolysable forms: (i) Emblicanin A and (ii) emblicanin B [24], which are antioxidant in nature; emblicanin A provides ellagic acid, glucose, and gallic acid on hydrolysis, but emblicanin B hydrolysis results in the formation of ellagic acid and glucose. This fruit is also a source of phyllemblin [12]. The further fractionation disclosed that many other phytochemical constituents are present, i.e. geraniin, corilagin, gallic acid, and furosine [25].

Use of Amla:

Metabolic syndrome

E. officinalis extract obtained by ethyl acetate extraction, contains the large amount of fructose-induced metabolic syndrome. This research elaborates that E. officinalis is rich in fraction of the polyphenol [35].

Cardioprotective

Besides the other benefits, its major advantage is protection from CVD, atherosclerosis, and other heart diseases. The remedy from atherosclerosis is possible only when the oxidation of injury or low-density lipoprotein (LDL) is minimized. The juice of Amla fruit ensured that it is rich in polyphenol amount. Moreover, the surgical pathology recovery of cardiac muscles guaranteed the preventative activity of E. officinalis. All the research and discussion argued that E. officinalis shows heart protective, antioxidant, and free radical scavenging properties [36,37]. Diabetes and related complications

Daily routine foodstuffs participate in controlling the diabetes level. Like garlic, onion, and turmeric, Amla (E. officinalis) shows also positive effect in lowering the diabetes level. Approximately 2–3 g of E. officinalis powder...
efficiently helps in improving the high-density lipoprotein cholesterol level and controlling the LDL cholesterol level. Furthermore, Amla fruit is also being in use to get remedy from neuropathy development, for diabetic patient [38].

**Immunostimulant**

As we are familiar with various plants, that are immune stimulant in nature. Similarly, Amla is the best source of ascorbic acid that enhances immunoactivity (i.e. make 2 times more effective) by stimulating immune cells and antibodies [39].

**Antimicrobial**

Approximately 50% and 20% of deaths are caused by infectious diseases in tropic areas and America, respectively. Chemical constituent obtained from medicinal plants is being in used to cure antimicrobial infection since over 100 years [40]. The organic solvent (such as CHCl3 and CH3 OH) extract of Amla (E. officinalis) shows efficient result against few Gram-positive and Gram-negative bacteria [41]. On the other hand, Vijayalakshmi et al. discussed antimicrobial nature of aqueous E. officinalis fruit pulp extract alongside Gram-positive bacteria and Gram-negative bacteria [42]. However, in future, E. officinalis drugs will serve as low cost and safe medicines due to its antimicrobial activities.

**Anticancer**

Like other natural medicinal plant, E. officinalis is better for anticancer because of high concentration of polyphenol constituents in it. Polyphenols involve the mechanisms associated with anticarcinogenic effect, inflammation, and radiation retardant [43].

free radical that causes skin damage. Furthermore, Amla (E. officinalis) is best for anti-aging and used for the production of cosmetics for skin care [48].

**Eye disorders**

For remedy of eye disease, E. officinalis and its tannoids are used which decreased the possibilities of oxidative pressure as there was a reversal of adjustments with appreciate to lipid peroxidation, carbonyl content of protein, and roles of antioxidant enzymes. Amla additionally prevented aggregation and insolubilization of lens proteins resulting from hyperglycemia [49].

**CONCLUSION** :

Now a days, research on Indian traditional medicinal plants has gained a new recommence. Although, the other systems of medicine are effective they come with a number of undesired effects that often lead to serious complications. Being natural, herbal medicine alleviates all these problems. Emblica officinalis (Amla) has an important position in Ayurveda- an Indian indigenous system of medicine. Amla due to its strong antioxidant and biological properties prevent innumerable health disorders as it contains essential nutrients and highest amount of vitamin C. It can be used as a possible food additive or in nutraceuticals and biopharmaceutical
industries. Several researchers revealed that various extracts and herbal formulations of amla showed potential therapeutic benefits against various diseases and the results are similar to standard drugs. In this review, we tried to make a summary the traditional and scientifically proven uses of amla and tried to establish their basic mechanisms. Even though, amla has various medicinal properties since ages, there is a colossal necessity to scientifically explore and evident its medicinal values at molecular level with help

REFERENCES


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