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Importance of Arjuna (*Terminalia arjuna*) and its medicinal formulation in Ayurveda.

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ABSTRACT:

Herbal medicines are getting popularized these days because of various advantages like less or nil side effects and most of them have therapeutic values. Using of plants with medicinal values for various human ailments is a best method in alternative medicine. Among various medicinal plants Terminalia species are known for their potential uses. Arjuna is introduced into Ayurveda as a treatment for various diseases centuries before. According to different samhitas Arjuna is used in the treatment of different diseases like Dant dhawan (cleaning of teeth), Medoroga (obesity), Kaphaja Prameha, Mutraghat (urinary disorder), Mukharog (mouth disease), Pittaja Prameha, Vataja and Kaphaja prameha. Samhitas says that Arjuna different Ayurvedic formulations like lepa, churna, ghrita, tail, kwath, asava, aristha, dhupa, phanta and modaka etc are found. Arjuna plant has traditionally been used to treat heart diseases for centuries, which is why it got the nickname "Guardian of the heart." Bark of Terminalia arjuna contains triterpenoids, tannins, phenolic acids, glycosides, antioxidants, magnesium, copper and zinc salts. Presence of these compounds plays an important role in curing cardiac diseases, cancer treatment, urinary tract infections, lung diseases and edema. Hence, in the present review paper an attempt has been made to consolidate medicinal properties of Terminalia species.

Keywords: Arjuna, Kakubha, Vagbhata, Medicinal properties, Guardian of the heart

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Introduction:

Medicinal plants serve an important role in health care and are the primary raw materials used in both traditional and mainstream medicine formulations; nonetheless, most people choose herbal medicines over conventional medications. They gained popularity because to their efficacy, the absence of contemporary medical options, the rising expense of modern drugs, and cultural preferences. Traditional knowledge systems have grown in relevance across the world, particularly in terms of plant resource preservation, sustainable growth, and the quest for novel use patterns. ¹⁻⁴Traditional medicine system involves knowledge, skills, and practices based on traditional cultures' assumptions, beliefs, and experiences to guard their health issues. Traditional herbal treatments are highly valued by many rural or indigenous groups in many underdeveloped nations. According to WHO, about 80% of the world's population relies on traditional medicine, while 60% of rural Indians utilize herbal treatments. Herbal supplement consumption has surged from 2.5% to 12% in the previous several years. ⁵⁻⁷ There is a growing understanding of the usefulness of medicinal plants as a result of

Ayurvedic treatment in India. Herbal medications are simple to obtain, secure, less expensive, effective, and have very little negative effects. Tannins, alkaloids, carbohydrates, terpenoids, steroids, flavonoids, and phenols are some of the chemical components found in medicinal plants that have a distinct physiological function on the human body. ⁸⁻¹¹

The Indian therapeutic system describes several medicinal plants for the treatment of various ailments, including cardiovascular disease (CVD), ulcers, diabetes, cough, excessive perspiration, asthma, tumor, inflammation, and skin problems. Among the plants, Terminalia arjuna (Roxb.) Wight and Arn., (T. arjuna) commonly known as 'Arjuna,' has been used as a cardiogenic in heart failure, ischemic, cardiomyopathy, atherosclerosis, myocardium necrosis, and has been used for the treatment of various human diseases such as blood diseases, anemia, venereal and viral disease; and to maintain excellent health. It is used to cure fractures, ulcers, hepatic disease, and has hypocholesterolemic, antibacterial, antimicrobial, antitumoral, antioxidant, antiallergic and antifeedant properties, among others. ¹¹⁻¹³

Aim and Objective

To review about Arjuna and its medicinal usage.

Sources and Methods

Material taken from various Ayurvedic texts, scientific Journals and research papers and all online available literature.

Historical Review:

The substance is mentioned five times in the four Vedas by Atharvaveda. This term means "white" in Rigveda, but in later samhitas and other literature it refers to a little plant also known as "Phalguna" and used as a replacement for soma. It is classified into two types in Kathuka samhita: Lohita tula (with red spikes) and Babhru tula (without red spikes) (white grey spikes). Arjuna has been characterized as the essence of herbs and is derived from soma blossoms. The kanda portion of Babhruvarna Arjuna is effective in regional ailments, according to the Kaushika sutra. The Arjuna tree is clearly stated in the 10th Skanda of the Srimada Bhagvadapurana.

Among the extant old medical treatises in India, Charaka samhita is possibly the oldest. Kayachikitsa is the primary focus of this samhita. In the Samhita era, the drug Arjuna was extensively and often discussed. It has been utilized in avaleha form for Hridroga

(heart-related disorders) from the beginning of the Samhita period. It is advised for people with skin problems such as kilasa, kitibha, dadru, pama, and others. Arjuna is referenced in Charaka's Udarda mahakasaya. The bark is used to make "Asava." It is contained in "Kasaya skandha." Arjuna has been utilized in kaphaja, paittika, rajyakshma, atisara, and kita damsha pramehas. It is a plant of Jangala desh as referred in Charaka samhita. Pusyanuga churna also consist Arjuna. Arjuna has been also used in the treatment of arsa, damsas, vrana and vatarakta. Dhananjaya has been used in raktapitta with chandana.

Other than hridroga, Sushruta has documented the usage of Arjuna in various forms for a variety of ailments. Partha and kakubha are also mentioned in Sushruta Samhita. It has been used to put a halt to "raktatipravritti." Arjuna is mentioned in "Salasaradigana" in dravya sangrahaniya adhyaya. Its utility has also been recognised in vrana, pattika grahani, upadamsa, and palitya. Arjuna also addressed sperm problems. Kakubha, who Dalhana referred to as Arjuna, is a nyagrodhadigana. It also cures rewati pratisedha and shita-putna pratisedha. Sushruta utilized partha flower in maha-sugandhi agada.

Terminalia Arjuna (Roxb.) Wt. & Arn., is commonly known as Arjuna, large evergreen tree belonging to family Combrataceae. It is distributed throughout the greater part of the Indian peninsula along rivers and found in Chhota Nagpur, Orissa, West Bengal, Punjab, Daccan and Konkan. The classical names of Arjuna are Dhavala, Kakubha, Nadisarja, Veeravriksha, Partha, Indradru.⁶ Generally stem bark, fruits and leaves of Arjuna are used in the therapeutics.

The therapeutic human dose of juice is 10-20 ml; powder 3-6 gm; decoction 50-100 ml;8 and kshirpaka10-12 ml.

Classification of Arjuna

- Charaka: Kashayaskandha, Udardaprashamana
- Sushruta: Nyagrodhadi, Salasaradi
- Vagbhatt: Nyagrodhadi, Virtarvadi
- Bhavaprakash Nighantu: Vatadi
- Bhavaprakash: Nyagrodhadi, Salasaradi
- Dhanvantari Nighantu: Amradi, Swati Nakshatra Vriksha

Properties and Action

- Rasa: Kasaya
- Guna: Laghu, Ruksha
- Veerya: Sheeta
- Prabhava: Hridya
- Doshaghnata: Kaphapittashamaka

- Rogaghnata: Vrana, Raktasrava, Asthibhagna, Raktatisara, Raktapradara, Prahema, Jeernajwara
- Karma: Raktastambhana, Sandhaneeya, Vranaropana, Stambhana, Hridya, Raktaprasadana, Kaphaghna, Mootrasangraheeya, Jwaraghna, Medohara, Vishaghna, Balya.¹⁹

Pharmacological properties of Arjuna:

- Arjuna has been attributed with kashaya rasa, katu vipak, sheeta veerya, has laghu and ruksha gunas. It pacifies kapha and pitta doshas. It also possesses the prabhava that is Hridya.
- It is being recommended to alleviate various disease conditions like Hridyaroga (heart diseases), Raktavikara (disorder of blood), Shotha (inflammation), Raktapitta (bleeding disorder), Pandu (anemia), Swasa (asthama), Kandu (itching), Kustha (leprosy), harmaroga (skin diseases), Jwara (fever), Medoroga (obesity), Asthibhanga (bone fracture), Vrana (wound), Yauvanpidika (acne), Netraroga (Eye diseases) and Karnaroga (ear diseases).^{20,21}

Part used of Arjuna:

- Bark
- Leaves and fruits

Dose of Arjuna

- Bark powder; 3-6 gm
- Bark decoction; 50-100 ml
- For kshirapaka; 5-10 gm.

Ayurvedic Formulations of Arjuna:

During the ancient time, physicians created medications based on the special needs of each patient. Drugs were employed in both crude and processed forms, and were transformed into various formulations as needed. When medications or formulations are ready for ingestion, they must be not only efficacious but also easy to administer, tasty, and pleasant to patients. The current scenario of generating many formulations from a single basic medicine is primarily concerned with safety, effectiveness, stability, and palatability. When developing pharmaceuticals, the Ayurvedic school of medicine prioritizes these four essential needs as well as other Ayurvedic foundations. Arjuna is one of the essential constituents in many Ayurvedic preparations.

Some formulations having emphasis of T. Arjuna as main ingredients²¹⁻²³

- ❖ Arjuntwakchurna – (Terminalia arjuna (Roxb.) Wt. & Arn. Bark) - Good for Heart, fever, raktapitta
- ❖ Arjunaghrita {Juice of Arjuna bark (16 parts), Clarified butter (4 parts), Paste of Arjuna bark (1 parts)} – Heart-disease
- ❖ Arjunaksheerpaka {Powder of Arjuna bark (1 part), Cow milk (8 part), Water (32 part)} – Heart-disease
- ❖ Arjunarista {Powder of Arjuna bark (4.80 kg), Vitis vinifera fruits (2.40 kg), Madhuca indica flower (0.96 kg), Woodfordia fruticosa flower (0.96 kg), Jaggery (4.80 kg), Water (49.15 lit)} - Heart and lung disorders, for strength/immunity, azoospermia.
- ❖ Godhumarjunavlehya {Wheat flour (50 g), Sesame oil (12 ml), Clarified butter of cow (12 g), Jaggery (50 g), Powder of Arjuna bark (6 g), Water (100 ml)} - All type of heart disease
- ❖ Godhumarjuna Paka {Wheat flour (46 g), Clarified butter of cow (46 g), Sugar (50 g), Goat milk (100 ml), powder of Arjuna bark (3 to 6 g), Honey (10 g)} - All type of heart disease
- ❖ Lakshadi Guggulu {Laksha churna (12 g), Asthishrikhala churna (12 g), powder of Arjuna bark (12 g),

Ashwagandha churna (12 g), Nagbala churna (12 g), shuddha Guggulu (60 g) – Fractures and dislocation of bones

- ❖ Baladighrita {6 g Warm water or warm milk} – Heart-disease
- ❖ Arvindasava {12 to 24 ml Equal part of water} - All kind of paediatric condition psychosis, emaciation and loss of strength

Discussion:²⁴⁻²⁷

Arjuna is a common medicinal plant used in the Ayurvedic school of medicine to treat a variety of diseases. According to Bhavaprakash, Arjuna possesses exceptional acts such as hridya, medohar, sandhaniya, vishaghna pramehara, and vranropan due to its huge qualities such as laghu, ruksha, sheetal, and kashay. Bark extracts have been shown to include acids (arjunic acid, termic acid), glycosides (argentine), anti-oxidants (flavones, tannins, oligmeric poanthocyanidins), minerals (calcium, magnesium, zinc, and copper), and other nutrients. Ayurvedic literature list a variety of ancient Arjuna preparations. Several popular formulas, such as Arjuna Kshirpaka and Arjunarista, have been used for many years. Kshirakalpana is Sushruta's original kalpana, and Arjuna Kshirapaka was initially recommended by Acharya Vrinda in

Hridrogachikitsa, and Arjuna bark is employed.

Kshirapaka is a one-of-a-kind Ayurvedic concoction. In reality, the strength of a medicine is transmitted into milk by this method. Milk is a colloidal material. It is worth noting that both the water- and fat-soluble fractions of a medication are transported to Kshirapaka. Fermentation most likely leads in the alteration of various phytochemical substances found in medicinal plants, making them less poisonous and more effective, as well as aiding in their absorption. People are more likely to ingest bigger dosages of these medications for longer periods of time due to their therapeutic benefit, pleasant taste, and ease of access. Arjunarishta is a popular oral liquid cardiac tonic made with Arjuna as its active ingredient. It nourishes and builds muscle while also promoting heart function by controlling blood pressure and cholesterol levels. Because of its ability to efficiently integrate the qualities of other substances, ghee is the unctuous material par excellence. It multiplies the potency of medications thousands of times and generates several attributes. Ghee is commonly employed in medical formulations due to its exceptional capacity to absorb the compounds of the

plants with which it is blended while retaining its own attributes. Arjuna's freshly produced cow milk ghee Ghee has the potential to operate as a free radical scavenger, which might aid in the prevention of numerous free radical-related illnesses.

Guggulu has rasayana property and some properties are increased by adding some powdered drug. In the Lakshadi guggulu, Arjuna is one of the ingredients which contain high amount of calcium and promotes fixation of fractured bone and increase healing power of the drug. Lakshadi guggulu has anti-inflammatory and analgesic activity. It also has antioxidant properties, antimicrobial activity and promotes general physical fitness. Therefore, the combination of Guggulu and Arjuna escort the formulation at acumen level to treat fractured bone. In Godhumarjunapaka and lehya, Arjuna bark churna is incorporate with wheat flour, clarified butter and jeggary or sugar. This formulation is more palatable than other formulation and also enrich with such ingredients which reassure the body. Terminalia arjuna is commonly used for the treatment of cardiovascular disorders, including heart disease and accompanying chest discomfort, high blood pressure, and high cholesterol, according to existing

literature data. It is also used to treat earaches and urinary tract infections. Terminalia arjuna's usefulness as an anti-ischemic agent and a powerful antioxidant in preventing LDL, reperfusion ischemic heart damage, and its ability to lower atherogenic lipid levels has been proven in several experimental and clinical investigations.

Conclusion:

It has been mentioned as a very valuable medicinal herb since Vedic times. Different parts of Arjuna are utilized in different formulations for different ailments, according to the samhitas and nighantus. Because of the aforementioned research from Vedas to nighantus, Arjuna is a very significant medicinal plant with numerous properties such as Hridroga, Pradeha, Updamsha, Vishuchika, Rasayana, Kshudraroga, and so on. Arjuna has several other names, including Kakubha, partha, Veertaru, and Dhananjaya. As a result, different parts of Arjuna are employed to create various formulations for various ailments. The dried stem bark of Arjuna has been widely used in traditional medicine as a cardiac tonic, for injury or wound, emaciated state, poison, blood disorders, obesity, urinary disorders, and ulcer or wound.

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