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Popular Article

Arjuna: A Magical Indian Tree

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Introduction

Arjuna (*Terminalia arjuna*) is a massive sized evergreen deciduous tree, which belongs to the family "Combretaceae" and famous for medicinal properties of its bark. The most common names of Arjuna are, Arjun (Hindi), Marudhu (Tamil and Malyalam), Sadaru (Marathi), Sadado/Sadad (Gujrati). Famously it is known as "herbal hero of heart."

Habitats

Arjuna is easily found throughout Indian sub-continent. The elevation of the tree may swing up to 20-30 meters with buttressed trunk, glossy grey bark, and vast spread canopy from where the branches drop downwards. Leaves are conical, dull grassy on the top and on the beneath, pale brown in colour. Arjuna flowers between March to June and fruiting appears between Septembers to November.

Use

Arjuna bark is one kind of widely used medicinal plant for health issues, its bark decoction is being used in the Indian subcontinent for anginal pain, hypertension, congestive heart failure, and dyslipidemia, based on the observations of ancient physicians for centuries. Arjuna bark is a potential cardioprotective, hypolipidemic, and hypocholesterolemic agent. It is an ayurvedic remedy and the ancient Indian physician Vagbhatta first advocated the use of this tree bark for heart diseases. The practice of Arjuna bark powder as an astringent and diuretic is included in the works of Charaka. In an ayurvedic text, "Bhavprakash," the drug from Arjuna is sweet, mucilaginous, cooling and provides strength. Most of the studies, both experimental and clinical, have suggested that the crude drug possesses anti-ischemic, antioxidant, hypolipidemic, and antiatherogenic activities. The bark is antidysenteric, antipyretic, astringent, cardiotonic, lithotriptic, and tonic; a powder of the bark acts as a diuretic in cirrhosis of the liver and gives relief in symptomatic hypertension. Some study shows that



the bark extract decreases fat content in liver and heart, this indicates a decreased availability of fats to these organs. This could be due to decreased absorption of fats from intestines due to the presence of fibre, beta-sitosterol, saponins and tannins in bark extract and it explain the resultant lowering of total and LDL cholesterol.

Phytochemistry

The major constituents of Arjuna can be classified into two general chemical classes, polyphenols (60%-70% of bark) and tannins (20-40%). About 15 types of tannins and related types of compounds have been isolated from its bark so far. The bark also contains substantial amounts of magnesium, calcium, zinc, and copper. The active components of Arjuna bark are tannins, triterpenoid saponin (arjunic acid, arjunolic acid, arjungenin, and arjunglycosides), flavonoids (arjunone, arjunolone, luteolin), gallic acid, ellagic acid, Oligomeric Proanthocyanidines (OPCs).

Arjuna bark contains a very high level of flavonoids, and most common flavonoids perceived from its bark are, namely arjunolone, flavones, baicalein, quercetin, kaempferol, and pelargonidin. These flavonoids have been identified to exert antioxidant, anti-inflammatory, lipid-lowering and vascular amplification effect while glycosides are cardiogenic, thus making its bark inimitable.

Saponins mostly perceived from arjuna bark are arjunic acid, arjunolic acid, arjungenin, and arjunglycosides. It is trusted that the saponin glycosides in arjuna bark may be responsible for its inotropic effects, which improve cardiac muscle function and subsequent improvement in the pumping activity of the heart, while the flavonoids/phenolics may supply antioxidant activity as well as vascular amplification activity, in which exhibit its cardio-protective function.

Conclusion

Arjuna is an exceptional herb that aids in facilitating a hale and hearty heart and diminishes the results of the anxiety and apprehension. In addition, using the bark of the tree endorses effectual functioning of the cardiac muscles. As a result, arjuna has been a preferred herb in Ayurveda, the ancient Indian medical science, for treating as well as maintaining the health of the cardiovascular system. Primarily, the ingestion of medications prepared with bark of arjuna ensures usual functioning of the heart, provides energy to the heart muscles, promotes the functioning of platelets as well as helps in sustaining a steady blood pressure level. More intensive and prolonged studies to evaluate its various actions of this herbal material are needed.

