

A REVIEW LITERATURE OF ADHATODA PUFF

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ABSTRACT

Justicia adhatoda is belong to Acanthaceae family is known as Malabar and they found throughout the world. The leaves of Adhatoda vasica contains phytochemicals such as alkaloids, tannin, saponins, phenolics, and flavonoids. The most important is vasicine, vasicol, adhatodinine and vasinol, a quinazoline alkaloids. The vasicine yield of the herbage has been measured as 0.54 to 1.1% by dry weight. The *Justicia adhatoda* leaf extract showed that it contained 0.85% vasicine and 0.027% vasicinone. Whereas vasicine at low concentrations, induced bronchodilatation and relaxation of the tracheal muscle. Research proved as, Commercial cough syrups were prepared by bromhexine and ambroxol – two widely-used mucolytics effect as similar alkaloid vasicine. *vasica* is effectiveness in treating respiratory illness. It is anti-spasmodic, Broncho dilator, Mucolytic, Muco-kinetic and expectorant. The Malabar dry leaves used as puff like, beedi. leaf is useful to treat asthma, chronic bronchitis and other respiratory related problem. In this paper, final concluded as; indigenous medical important clearly proved as modern scientific evidences therefore this cost-effective common herb introduce to globally economic herb for treating Bronchial asthma and Bronchitis in world-wide level. This is commonly available plant in all over the area which area people earned money from cultivation and exports.

KEYWORDS:

Justicia adhatoda, Phytochemicals, Puff, Asthma





INTRODUCTION:

The Siddha System is largely therapeutic in nature. In traditional system of medicine consists of large number of medicinal plants, which convey their potential therapeutic utilise. *Justicia adhatoda* is belong to Acanthaceae family. It is an evergreen, gregarious, stiff, perennial shrub, 1.2-6.0 m in height, distributed throughout India, up to an altitude of 1,300m. Is known as Malabar and they found throughout the world. It has 236 vernacular names found in 10 languages. The leaves of Adadoda vasica contains phytochemicals such as alkaloids, tannin, saponins, phenolics, and flavonoids. The most important is

vasicine, vasicol, adhatodine and vasinol, a quinazoline alkaloids. The vasicine yield of the herbage has been measured as 0.54 to 1.1% by dry weight. The *justica adhatoda* leaf extract showed that it contained 0.85% vasicine and 0.027% vasicinone. Vasica is most well-known for its effectiveness in treating respiratory conditions. The leaves of Vasica are shows stimulant effect on the respiratory system. Vasica shows an antispasmodic and expectorant effect, and has been used for centuries with much success to treat asthma, chronic bronchitis, and other respiratory conditions. Whereas vasicine at low concentrations, induced bronchodilatation and relaxation of the tracheal muscle. it is a primary herb of the Indian medicine used in the treatment of cough, bronchitis, asthma and symptoms of common cold. The source of the drug Vasaka' is well known in the indigenous system of medicine for its beneficial effects, particularly in bronchitis. Similarly, Bisolven, a branded drug containing Vasaka as an ingredient is used to clear the airways by decreasing the mucus secretions and opening the passages. Usually, yellow leaves are exploited for cough and smoke from leaves is used for asthma. There are various herbal formulations accessible for the treatment of various kinds of respiratory disorders Concurrently, many people in developed countries have begun to turn to alternative or complementary therapies, including medicinal herbs Vasa, botanically identified as a Adhatoda vasica Nees., belonging to Acanthaceae family is important Indian medicinal herb. Its leaves are extensively used for treating cold, cough, whooping cough and chronic bronchitis and asthma as sedative expectorant, antispasmodic and anti-inflammatory drug.

Scientific classification of *Justiciar adhatoda*

Taxonomy	
Kingdom	Plantae
Order	Lamiales
Family	Acanthaceae
Genus	Justiciar
Species	J.adhatoda

CHEMICAL COMPONENTS:

It found in leaves and roots of this plant includes essential oils, fats, resins, sugar, gum, amino acids, proteins and vitamin C etc. The leaves also contain a very small amount of an essential oil and a crystalline acid. The vast variety of pharmacological uses of Adadoda vasica is believed to be the result of its rich concentration of alkaloids. The prominent alkaloid found in leaves is the quinazoline alkaloid known as vasicine. In addition to vasicine, the leaves and roots of Adadoda vasica contain the alkaloids l-vasicinone, deoxyvasicine, maiontone, vasicinolone and vasicinol. Research indicates that these chemicals are responsible for bronchodilatory effect

NUTRITIONAL VALUE:

It revealed the presence of major (K, Na, Ca and Mg) and trace (Zn, Cu, Cr, Ni, Co, Cd, Pb, Mn and Fe) elements in Adhatoda vasica.

MEDICINAL USES:

Respiratory Disorders

Adhatoda vasica has been used for thousands of years in various traditions for inflammatory conditions of respiratory tract without any adverse effect. In a critical review, Adhatoda vasica has been acknowledged as a mainstream natural agent used for the inflammatory condition of the respiratory tract. It has been also proven for activities such as bronchodilatation, antitussive, antihistaminic, relief in chronic disorders like asthma

Bronchodilator

In 1959, a first study was reported to claim bronchodilatation activity of vasicinone, alkaloid of Adhatoda vasica. Vasicine is also claimed to have bronchodilator activity. A study was conducted to assess a mode of action of a bronchodilator obtained by the chemical modification in the molecule of alkaloid vasicine named 6, 7, 8, 9, 10, 12-hexahydro-azepino- [2, 1-b]-quinazoline- 12-one (RLX).

Antitussive

Adadoda vasica has been also identified for its antitussive activity. It has been proved as effective as codeine on mechanically or electrically and irritant aerosols induced coughing. There was 67% cough suppression with Adhatoda vasica which was comparable with codeine (62%).

Asthma

A clinical study was conducted to assess the effect of syrup prepared from Adhatoda vasica (*vasa avaleha*) with two different types of dose of Adhatoda vasica, namely, aqueous extract (*swaras*) and heated extract (*kwath*). The parameters of assessment used were subjective relief in symptoms of asthma observed in patients and certain haematological parameters. Both the formulations showed significant reduction. But more significant relief in the symptoms of patients and insignificant decrease in haematological parameters treated with vasa syrup prepared with aqueous extract (*Swarasa*) were noted. Pentapala-04 supplementation was potentially effective in blunting lipid peroxidation (LPO), suggesting that it possibly has antioxidant property to reduce ova albumin and aluminium hydroxide-induced membrane LPO, and thereby to preserve membrane structure. Thus, "Pentapala-04" prevents lung injury and inflammatory changes proving the antiasthma tic activity.

Acute Upper Respiratory Tract (URT) Infection

In a randomized controlled trial efficacy of Adhatoda vasica was assessed in a combination of other medicinal herbs in acute URT infection. A fixed combination of extract of three herbals containing Adhatoda vasica, *Echinacea purpurea*, and *Eleutherococcus senticosus* was compared with the combined extracts of *E. purpurea* and *E. senticosus* alone (echinacea mixture), whereas Bromhexine, a standard drug was used as a standard control. The patients treated with Adhatoda vasica in combination with other herbs

showed significantly greater improvement compared with those receiving the standard treatment. The addition of extract of *Adhatoda vasica* in the *Echinacea* mixture claimed to enhance the efficacy.

Anti-inflammatory Activity

Few studies have been reported the anti-inflammatory activity of *Adhatoda vasica*. The anti-inflammatory activity of phytochemicals of *Adhatoda vasica* tested using carrageenan and CFA-model induced paw edema. The results revealed that vasicine showed most potent anti-inflammatory effects (59.51%) at the dose of 20.0 mg/kg at 6 h after carrageenan injection. In another experiment, the modified hen's egg chorioallantoic membrane test was used to evaluate anti-inflammatory activity of the methanol extract of *Adhatoda vasica*. The alkaloid fraction showed potent activity at a dose of 50 µg/pellet equivalent to that of hydrocortisone.

Antimicrobial Activity

Duraipandiyar *et al.* reported that vasicine acetate obtained by acetylation of vasicine exhibited good zone of inhibition against bacteria: *Enterobacter aerogenes*, *Staphylococcus epidermidis*, and *Pseudomonas aeruginosa*. Furthermore, strong antibacterial activity was exhibited by vasicine against *Escherichia coli* at 20 µg/ml dose and also demonstrated maximum antifungal activity against *Candida albicans* at the dose of >55 µg/ml. Methanolic extract of *Adhatoda vasica* have showed antibacterial activity against Gram-positive strain, namely, *Staphylococcus aureus*, *Micrococcus luteus*, and Gram-negative *Pseudomonas aeruginosa*.

Puff preparation

Instead of purchasing dried *Adhatoda vasica* for your cigarettes, you can pick or collect fresh herbs and dry them. This is good because it allows you to control how dry the herbs are (for smoking, you don't want your herbs so dry that they're crispy). Tie your herbs in small bundles using twist ties, elastic bands, string, or thread, and hang them upside down for a couple days until they are mostly (but not completely) dry.

Result and discussion:

CONCLUSION:

In Indian Materia medica, Vasa is included under the list of prime drugs for the management of Bronchitis and TB. Whereas vasicine at low concentrations, induced bronchodilatation and relaxation of the tracheal muscle. Research proved as, Commercial cough syrups were prepared by bromhexine and ambroxol – two widely-used mucolytics effect as similar alkaloid vasicine. *vasica* is effectiveness in treating respiratory illness. The Malabar dry leaves used as puff like, beedi. leaf is useful to treat asthma, chronic bronchitis and other respiratory related problem. In this paper, final concluded as; indigenous medical important clearly proved as modern scientific evidences therefore this cost-effective common herb introduce to globally economic herb for treating Bronchial asthma and Bronchitis in world-wide level. This

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