



Medicinal Application of *Adhatoda vasica*(L)

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Abstract:

Herbal medicine is still the mainstay of about 75–80% of the world population, mainly in the developing countries, for primary health care because of better cultural acceptability, better compatibility with the human body and lesser side effects.

In Ayurveda *vasica* have great role in cure the specific disease. *Vasica* is popular for its beneficial effects, particularly in bronchitis. *Vasica* herb is used for treating cold, cough, chronic bronchitis and asthma. The decoction of fresh leaves can be used for cure above diseases. *Vasica* leaves, bark, root, fruits and flowers are useful in the removal of intestinal parasites. The decoction of root and bark of *vasica* is also useful to cure cough, cold, chronic bronchitis and asthma. A warm decoction of its leaves is useful in treating scabies and other skin diseases. In acute stages of bronchitis, *vasica* gives unfailing relief, especially where the septum is thick and sticky, it liquefies the septum. In asthma the dried leaves should be smoked. *Gulkand* which prepared from *vasica* flowers is used to treat tuberculosis. The juice from its leaves should be given in doses of 2 to 4 grams in treating diarrhea and dysentery. A poultice of its leaves can be applied with beneficial results over fresh wounds rheumatic joints and inflammatory swellings. In ancient times leaves decoction with pepper and dried ginger was taken. but, now a day because of modern technology it is possible to searched out its active components likes *vasicine*, *oxyvasicine* and *vasicinone* and alkaloids for expelling sputum from the body.

Key Words: *Adhatoda vasica*, Herbal medicine, traditional uses.

Introduction: The name of *vasica* is based on Sanskrit name. *vasica* is indigenous to India. Its grow all over the India, and lower the Himalaya ranges. *Vasica* also called as Malabar nut tree, through the India. It is tall, with several branches, dense, and an evergreen shrub. Leaves are large and lance-shaped. It has capsular four seed, fruits. The flower are either white or purple in colour. *Adathoda vasica* is a very well know remedy available everywhere

and its especially popular in rural areas.in Ayurveda medicine, Malabar nut has been used for a mulititude of disorders including bronchitis, leprosy, blood disorder, heart troubles, thirst, asthma, fever, vomiting, loss of memory, leukoderma, jaundice, tumours, mouth troubles, sore-eye, gonorrhoea.(Prasad et al.,2011) Acknowledging its medicinal properties, it has been adopted by modern medical practitioners also. A decoction of the leaves of *vasica* may be used to help with cough and other symptoms of cold. In many cases where bronchitis is due to lack of appetite and poor digestion, the juice of *vasica* is mixed with the juice of ginger and honey and given in the early morning on an empty stomach. there soothing action helps irritation in the throat and the expectorant will help loosen phelgem deposit in the airway. A poultice of the leaves of *vasica* may be applied to wounds for their antibacterial and anti-inflammatory properties. The poultice is also helpful in reliving rheumatic symptoms when applied to joints. *Vasica* has been used to control both internal and external bleeding such as ulcer, piles, and bleeding gums. This growth in almost all part of the world and their bark, leave, flowers are used in the medicine. Leaves are used to cure cough and bronchitis. The plant has pungent and astringent test.(Patel and Venkata-Krishna-Bhatt 1984) It is cold in action. It normalizes kapha and pitta and improves the voice. *Vasica* special virtue is stopping bleeding due to the aggravation of pitta, through the mouth, nose genitals, or the urinary systems. This is not to say that it always cures all these diseases but it does give immediate relief. in many of the cough syrups that are available, *vasica* has been used either as a base or as an ingredient. In ancient time the roots of the *vasica* was tied on the back below the navel region and it is said that it produced safe, painless delivery. *Vasica* *avaleha*, useful in easing all sorts of cough, especially in the case of asthma, and bronchial congestion, is made in the following manner: the juice of 1 seer of *vasica* leaves is boiled with 1/4 seer of white sugar, 4 total pure Ghee, until the mixture is reduced to a jelly form. After cooling ¼ seer of honey is added and the preparation is mixed thoroughly. Person suffering from

bleeding piles, or diarrhea, and women suffering from menorrhagia can take the juice of vasicca 2 to 3 times a day to great advantage. Dried and powdered leaves also form a remedy for bronchitis in the dose of 40 grams twice a day.

Methods and Materials:

Preparation of vasicca juice:

Juice from *A. vasicca* leaf was prepared by different methods. Firstly traditional bolus method (modified Put Pak Vidhi)¹² in which 100 g of fresh leaves of *A. vasicca* were crushed using mortar and pestle, made into a bolus and it was covered with fresh leaves of *Syzygiumcumini*. It was then covered with a layer (approximately 1½ inch thick) of paste of wheat flour, followed by a layer of clay paste and the ball (bolus) so obtained was dried at room temperature. The dried bolus was subjected to heat in a muffle furnace at 450°. During heating it was checked periodically and when the outer layer of the bolus became red hot and aroma of the wheat flour being baked emanated (it takes approximately 15-20 min of heating), it was taken out. The bolus was opened while hot and the leaf paste was squeezed through 4 folds of muslin cloth to obtain juice. The volume of the juice obtained was measured. This sample was coded as S-1. In the traditional method, the bolus is subjected to laghu puta (heat), using cow dung cakes. We modified the method slightly by heating the bolus in a muffle furnace.

The second method employed was steaming, which was carried out using two different methods. In the first method, 100 g of fresh leaves were crushed using mortar and pestle and placed in a steel vessel (without adding any water to the leaves) and heated at 121° (15 lb pressure) for 30 min. The crushed leaves were taken in 4 layers of muslin cloth and squeezed in order to obtain juice out of it. The juice obtained was measured. This sample was coded as S-2. In the second method, 100 g of fresh leaves were crushed using mortar and pestle and 100 ml of distilled water was added to it and it was subjected to heat at 121° (15 lb pressure) for 30 min. The steamed material was taken in a 4-layered muslin cloth and squeezed in order to obtain juice out of it. The juice obtained was measured. This sample was coded as S-3.

Vasica Swarasa (manual) was the third method employed in which, 100 g of fresh leaves were triturated to a fine paste in a stone motor. It was taken in 4 layers of muslin cloth and squeezed by hand to take out the juice. This sample was coded as S-4. The fourth method used was Vasica Swarasa (using a grinder). One hundred grams of fresh leaves were ground in a mixer/juicer with 100 ml of water and filtered through 4 layers of muslin cloth and squeezed by hand to take out the juice. This sample was coded as S-5. Finally, the juice was prepared from dry leaf powder¹⁵, where to 100 g of dry leaf powder, 200

ml of water was added and macerated for 24 h at room temperature. The above mixture was taken in 4 layered muslin cloth and squeezed to take out the juice. The juice obtained was measured. This sample was coded as S-6.

Chemical Composition:

The principal constituents of *Vasica* are its several alkaloids, the chief one being vasicine the leaves contain two major alkaloids called vasicine and vasicinone 2,3. The pharmacological activities of vasicine and vasicinone are well known. Recent investigation on vasicine showed bronchodilators activity comparable to theophylline, both in vitro and in vivo (Lahiri and Pradhan 1964) Both the alkaloids in combination showed pronounced bronchodilatory activity. Vasicine also exhibits strong respiratory stimulant activity. There has also been a report of thrombopoetic⁴ (platelet-increasing) activity with vasicine. The leaves of vasicca are rich in vitamins C, carotene and an essential oil. A study showed that *Mycobacterium tuberculosis* was inhibited by the essential oil. (at specific conc.) uterine stimulant activity and moderate hypotensive activity of the alkaloids have been observed.

Medicinal Applications of *Adhatoda vasicca*

1) Healing Power and Curative Properties:

The leaves, roots and the flowers are extensively used in indigenous medicine as a remedy for cold, cough, bronchitis and asthma.

2) Bronchitis and Asthma:

In acute stages of bronchitis it gives unfailing relief, especially where the sputum is thick and sticky. It liquefies sputum so that it is brought up more easily. For relief in asthma, the dried leaves should be smoked.

3) Tuberculosis:

In Ayurveda, a preparation made from vasicca flowers, known as gulkand is used to treat tuberculosis. A few fresh petals of vasicca flowers should be bruised and put in a pot of chill³ clay. Some sugar crystals are added and the jar kept in the sun. It should be stirred every morning and evening. The preserve is ready for use in about a month. Even the juice from its leaves is useful in treating tuberculosis. About 30 ml of the juice is taken thrice a day with honey. It relieves the irritable cough by its soothing action on the nerve and by liquefying the sputum, which makes expectoration easier.

4) Coughs

For coughs, 7 leaves of the plant are boiled in water, strained and mixed with 24 grams of honey. This decoction provides relief. Similarly a confection of vasicca flowers eaten in doses of 12 grams twice daily relieves cough. About 60 grams of flowers and 180 grams of jaggery should be mixed for preparing this confection.

5) Intestinal Worms:

Its leaves, bark, the root-bark, the fruit and flowers are useful in the removal of intestinal parasites. The decoction of its root and bark in doses of 30 grams twice or thrice a day for 3 days can be given for this purpose. The juice of its fresh leaves can also be used in doses of a teaspoon thrice a day for 3 days

6) Diarrhoea and Dysentery :

The juice from its leaves should be given in doses of 2 to 4 grams in treating diarrhoea and dysentery.

7) Skin Diseases:

A poultice of its leaves can be applied with beneficial results over fresh wounds, rheumatic joints and inflammatory swellings. A warm decoction of its leaves is useful in treating scabies and other skin diseases.

Methods for uses and dosages:

The drug *vasica* is often taken in the form of juice extracted from its leaves, mixed with ginger or honey, in doses of 15 to 30. the leaves can be made into a decoction or the dried leaves can be given in powder form in doses of 2 grams. Both the decoction and powder are constituents of many preparations used in the Ayurvedic medicine (Sharma et al., 1992) for various affection of the respiratory tract. (Karthikeyan et al., 2009) The root and the bark have the same medicinal uses as the leaves. A decoction of the bark is given in 30 to 60 ml doses and the powdered root-bark in 0.75 to 2 grams. (Bhat et al., 1978)

Conclusion:

On the basis of my studies I concluded that *Adathoda vasica* traditionally widely used medicinal plants. it show a wide range of biological activities that helps to utilize to use the medicinal benefits of this plants. Plant is well-known herb in indigenous system of medicine for its beneficial effects, particularly in bronchitis. The leaves of the plant contain the alkaloids, vasicine, which is responsible for the small but persistent bronchodilation, and an essential oil which is chiefly responsible for the expectorant action. such unci herb supports the bronchial function with bronchodilatory, expectorant and mucolytic properties. (Dorsch and Wagner, 1998) The drug *vasica* comprises the fresh or dried leaves of the plant. It is used as an expectorant and brings quick relief in bronchitis. The leaves and roots contain other alkaloids, vasicinone, vasicinolone and vasicol, which may contribute to the bronchodilatory effect through anticholinergic action on the vagal innervation of the bronchi. Studies have also shown *vasica* to be effective in the treatment of *amlapitta* (dyspepsia) and *pyorrhoea*. in current and future we have to conserve the plants.

Result:

The literature survey has shown that *Adhatodavasica* is

a chief source of many pharmacologically and medicinally important chemicals such as vasicine, vasicinone, vasicolone, and other various useful minor alkaloids. After studies it is clear that *Adathoda vasica* play great role in Ayurveda. In *vasica* two more common and major alkaloids are present called Vasicine and vasicinone^{2,3}. Medicinal properties of plants are due to the secondary metabolites (alkaloids, phenols, tannin etc.) present in different plant parts (Palombo, 2006). They present in leaves and bark of *Adathoda*, which helps to cure different types of disease like cough, cold, asthma, and bronchitis.

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