

## ASPIDOSPERMA “The Digitalis of Lungs”

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### ABSTRACT

Plant belonging to the genus *Aspidosperma*, a member of the family Apocynaceae, contains high amount of yohimbine (the primary active ingredient in *Aspidosperma*). There are different species of quebracho tree and many are used for commercial purpose, but only a few are used medicinally. The intraspecific variations of some species make *Aspidosperma* one of the most complex genera of the Neotropical Apocynaceae.

### Keywords

*Aspidosperma* Quebracho; White Quebracho; Quebracho Balance; Quebracho Bark.

### INTRODUCTION

Common Name: White Quebracho.

Family: Apocynaceae.

Botanical Description: Native of Argentina. This is an evergreen tree which may grow to 100 feet with an erect stem and wide spreading crown.

Part Used: Bark

Herbal: Quebracho is a Brazilian herbal remedy from which the alkaloids *Aspidospermine* has been isolated. The alkaloid takes the form of very small, very brilliant white crystals, sparingly soluble in water, readily soluble in alcohol and ether. It is supposed to contain 6 alkaloids namely.

- *Aspidospermine*
- *Aspidosamine*
- *Aspidospermatine*
- *Querbrachine*
- *Quebrachamine*
- *Hypoquebrachine*

The various alkaloids of quebracho act more or less antagonistically to each other, but the chief good effect is the increase in depth and regulation of the rate of respiration. The alkaloids are hypotensive overall. However, they are arterially hypertensive, spasmolytic, diuretic, peripherally vasoconstrictive and respiratory stimulating.

*Aspidosperma* is a remedy for dyspnea when not due to pronounced organic changes. Being centric stimulants to the pneumogastric it affects chiefly the cardiac and pulmonary plexuses and is a remedy of power in imperfect oxygenation with a disturbed balance between the pulmonic circulation and the action of the heart. It is used in cardiac and renal asthma, emphysema, the dyspnea of the capillary bronchitis and of chronic pneumonia, advanced bronchitis phthisis, bronchial asthma and uncomplicated asthma when insufficient cardiac force. It relieves the cough of la grippe, when associated with dyspnea.<sup>[1]</sup>

## CLINICAL

Asthma. Cardiac Asthma. Cyanosis. Dyspnea. Emphysema. Fever. Heart Disorder. Paralysis. Pulmonary Stenosis. Cardiac Palpitations with Cough.<sup>[2]</sup>

## PHYSIOLOGICAL ACTION

In investigating the physiological action of the agent, Penzoldt determined that its influence was exerted upon the heart and respiratory functions. He found in different forms of dyspnea from emphysema, severe bronchitis, phthisis, chronic pneumonic processes with periodic asthma and pleuritis, that after giving one to two teaspoonful doses of a solution sometimes two or three times a day, the frequency of breathing generally diminished, the respiration were less deep, and that the cyanosis especially in phthisis and emphysema was almost invariably diminished or removed. The effects lasted for hours and were followed without exception by improvement of the patient. It is now prescribed for the above conditions. In one case of inherited pulmonary stenosis and in another of thrombosis of the left main branch of the pulmonary artery the effect was remarkable, though but temporary.

Mariasi y Larrion, of Madrid, employed *Aspidosperma* in a number of diseases of the respiratory and circulatory organs. The following conclusions are a short resume of his observations from a paper translated for the *Therapeutic Gazette* in 1880. "The principal action of this drug is to cause a diminution of the number of pulse beats per minute and lessens the frequency of the respiratory act, its principal and direct action is on the circulatory center, giving tone and regularity to the contractions of the heart with an intermediate effect on the nervous system"<sup>[3]</sup>

## CHARACTERISTICS SYMPTOMS

*Aspidosperma* acts specifically in restricted difficult breathing – dyspnea, stimulates the respiratory centers, increasing the oxidation of blood and excretion of carbonic acid. Pulmonary stenosis. Thrombosis of the pulmonary artery. Uremic dyspnea. An effective remedy in many cases of asthma. "Want of Breath" during exertion is the guiding symptom. Cardiac asthma.<sup>[4]</sup>

Hale calls it the *Digitalis* of the Lungs and lauds it for its influence on difficult breathing without much distinction as to the cause. In thrombosis of the pulmonary artery, in some cases of apoplexy and in uremic dyspnea, it has been of great service. Those of our own physicians who have used it wherever there is difficulty in breathing, are enthusiastic in praise of the relief it gives. It overcomes some severe cases of cyanosis and although its influence is not always permanent, it often prolongs life and the relief is most grateful to patient. The agent has quite a positive influence in malarial fever with or without lung complications, acting as a sedative, antiperiodic and febrifuge. It is not widely used for this purpose and it does not influence other fever.<sup>[3]</sup>

Dr. Hale reported that *Aspin* or *Quebracho* is derived from the Chilean "White *Quebracho*". At Santiago de Chile, the bark is used as a substitute for *chinchona* as a febrifuge.<sup>[2]</sup> Hale said *Quebracho* produces in animals, dyspnea, respiratory paralysis, slowed heart and paralysis of limbs. It relieves dyspnea in tuberculosis and pleurisy, but without influencing the fever. The 1x relieved asthma with livid face and dyspnea with cyanosis is frequently relieved by it. Following

this were signs of emphysema and severe attacks of asthma. Rales were heard and "pearls" of rounded gelatinous masses were expectorated. Hale noted 2 cases relieved by it one of the mitral incompetence and stenosis with severe nocturnal dyspnea, the other fatty heart (*Quebracho* had no influence on the edema which was removed by *Dig.*)<sup>[5]</sup>

## SPECIFIC INDICATIONS

**PULMONARY CONDITIONS:** The chief value of *Aspidosperma* was considered its property of controlling dyspnea, when not due to organic changes (Some however, have contended that it is equally valuable when structural changes are present.) *Aspidosperma* was used in both cardiac and asthmatic dyspnea, as well as in emphysematous states and was considered a remedy of marked value where there is evidence of imperfect oxygen. In cardiac asthma has been reputed one of the best remedies, and to relieve the distressing dyspnea of capillary bronchitis, advanced bronchitis, asthmatic bronchitis and simple asthma with insufficient cardiac power, it has been highly praised.

It is mostly indicated when dyspnea results from impaired pulmonary circulation secondary to a functional disturbance of the heart. *Aspidosperma* increases the rate and depth of respiration and thus relieves dyspnea associated with emphysema and asthma. It is best indicated long term to reduce the frequency and severity of asthmatic events. Dr. Mary Bove calls *Quebracho* the “silybum of the lungs”.<sup>[6]</sup>

**RECENT STUDY:** In some countries, the extract is used as a prescription drug to treat erectile dysfunction. A 2002 study in Germany found that pro-erectile effects of the bark extract may predominately be caused by the yohimbe. From the recent study it shows the purpose to determine whether an extract from the bark of the tree *Aspidosperma quebracho blanco*, which is used as a prescription drug to treat erectile dysfunction in some countries, can bind to human penile alpha1 and alpha 2-adrenoceptors, and cloned human alpha-adrenoceptor subtypes. Whereas the conclusion of the study clarifies, an alpha-adrenoceptor mediated component of the pro-erectile effects of *Aspidosperma quebracho blanco* bark extract may predominately be caused by its yohimbine content. The alpha-adrenoceptor independent, pro-erectile effects of the extract could not be determined from this study.<sup>[7]</sup>

### CONCLUSION

In Homoeopathy, vast numbers of drugs are written in Homoeopathic Materia Medica and these wide ranges of medicine are prepared from different sources. The pathogenic effects of some drugs are known to us, but due to the limited knowledge and facts still full actions of some drugs are not known. *Aspidosperma* is one of the rare and safe remedy with multiple benefits and contain a number of different contents, however further more information is required for the better understanding of the medicine.

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