EFFECT OF ASHWAGANDHA (WITHANIA SOMNIFERA) IN TREATMENT OF STRESS ORIENTED HYPERTENSION

Vats Anurag* MD(Ayu), Bharadwaj Shreyasi** MD(Ayu-Scholar), Sharma Satish# MPT, Richa## MPT

*Assistant Professor, Uttarakhand Ayurved University, Gurukul Campus, Haridwar, Uttarakhand.
**MD (Panchkarma) - Scholar, Munial Institute of Ayurveda Medical Science, Manipal, Udupi, Karnataka.
#Lecturer, ITS Paramedical College, Muradnagar, Ghaziabad.
##Assistant Professor, ITS Paramedical College, Muradnagar, Ghaziabad.

ABSTRACT

Ashwagandha (Withania somnifera) is a widely utilized drug in Ayurvedic medicine, and it is one of the ingredients in many formulations to improve immunity, it energies body, improves longevity, and de-stresses the mind. The main objective of the study was to analyze the efficacy of Ashwagandha in treatment of stress induced hypertension. The study was conducted on 20 stress-oriented hypertensive patients in the age group of 45 to 70 years. Subjects were given 2gm of Ashwagandha leave powder with milk in morning. Blood pressure was also recorded over a period of two months. Overall decrease in both systolic and diastolic blood pressure was found the patients. Hence, Ashwagandha with milk is recommended in treatment of stress- oriented hypertension.

KEY WORDS: Ayurveda, Ashwagandha, Hypertension, Milk, Stress, Withania somnifera.

INTRODUCTION

Ayurveda propagates wholesome health. Its objectives are to preserve the health of the healthy and cure the ailment of the ailed. These objectives lead to an improved quality of life for all people. There are innumerable diseases that are barriers in attaining these objectives. Hypertension is one such disease. Withania somnifera, commonly known as “Ashwagandha”
Anurag et al. World Journal of Pharmacy and Pharmaceutical Sciences

is well known for its therapeutic use in the ayurvedic system of traditional medicine. It has been used as an antibacterial, antioxidant, adaptogen, aphrodisiac, liver tonic, anti-inflammatory agent.[1]

Ashwagandha is a reputed health food and herbal tonic and used for cardiovascular diseases in ethnomedicine. It is available for human use either as a single herb or an ingredient of polyherbal or herbomineral formulations. The human doses of Ashwagandha are generally in the range of 4-6 g/day and expected to be safe and non-toxic. Withania contains active ingredients like steroidal alkaloids and lactones known as “withanolides”. Withaferin A and withanolide D are the two main withanolides that contribute to most of the biological actions of withania.[2]

Stress, as a major cardiovascular risk factor leads activation of sympathoadrenal and hypothalamic pituitary adrenal (HPA) axis and causes oxidative stress. Withania possesses a potent anti-stressor effect and is reported to alleviate stress induced changes and provides cardio protection in ischemic rats similar to the properties ascribed to adaptogens like Panax ginseng. It also increases heart weight and glycogen in myocardium and liver indicating intensification of the anabolic process and enhances the duration of contractility as well as coagulation time.[3]

So, this study was planned to assess the effect of Ashwagandha on hypertensive subjects.

MATERIALS AND METHODS

The study was conducted on 20 stress-oriented hypertensive patients in the age group of 45 to 70 years. Subjects were given 2gm of Ashwagandha leave powder with milk in morning. Blood pressure was also recorded over a period of two months. This study was based on the action of Ashwagandha leave powder in stress-oriented hypertension.

The leaves of Ashwagandha were collected from an authorized source and sorted out, washed and dried in oven at 60ºC for few hours till all the moisture is lost and is then grinded to a fine powder. The powder was then filled in small bottles. 2g of powder was administered orally to the subjects with milk. A purposive random sampling method was adopted in selecting the subjects.

The criteria used for the selection of subjects were-

1. They should be on dietary restriction and minimal dosage of antihypertensive drugs.
2. They should not have any other complications and they should be willing to cooperate for the entire period of supplementation.

3. They should be available at specific time periods for obtaining the supplements and measuring blood pressure.

The supplementation was conducted for a period of 90 days i.e., around three months. A total number of 20 subjects of stress-oriented-hypertension were selected and were given *Ashwagandha* leave powder with milk in the morning for three months. Blood pressure was monitored before supplementation, mid of supplementation and after supplementation with Sphygmomanometer.\(^4\)

The main tools for data collection were interview schedule, and anthropometric measurements. Weight and height.\(^5\) were recorded and BMI was calculated. The demographic profile of the respondents was gathered by the interview schedule, and anthropometric assessment was used to find out the height, weight and body mass index.

The data obtained were subjected to descriptive analysis. Body mass index was computed using the height and weight values. Blood pressure was also assessed. The risk factors were also computed. Statistical tests included- arithmetic mean, standard deviation and t-test.

**ETHICS**

The procedures in the present study were in accordance with the ethical standards. Patients were given information saying that their participation was voluntary and that they could choose not to participate at any time without having to give a reason.

**RESULTS AND DISCUSSION**

Mehra et’al. reported that *Ashwagandha* is advocated as a protective drug against atherosclerosis, hypertension and coronary heart diseases.\(^5\) It reduces the sensitivity of the heart to adrenergic stimulation and thereby protects the heart against sympathetic outbursts.

The blood pressure of the subjects in the current study, were compared before supplementation and after supplementation. Mean systolic blood pressure (Fig. A) before supplementation was found to be 162 mmHg whereas after supplementation mean systolic blood pressure decreases to 152 mmHg.

Decrease in systolic blood pressure was not very significant.
Mean diastolic blood pressure (Fig. B) before supplementation was found to be 102 mmHg whereas after supplementation mean diastolic blood pressure decreased to 84 mmHg. Decrease in diastolic pressure was more significant. Since the decrease in the diastolic bold pressure was greater.

This indicates that the use of Ashwagandha is more efficacious in decreasing the diastolic blood pressure, when compared to systolic blood pressure, in stress oriented hypertensive subjects.

The roots and leaves of Ashwagandha are used traditionally in the form of powder, decoction, oil etc. These have been used in folk medicine against general disability, hypertension, inflammations and wounds.

Fluctuations in Blood Pressure of subjects receiving Ashwagandha indicated that there has been a decrease in systolic blood pressure for the hypertensive subjects taking Ashwagandha. On the other hand, diastolic blood pressure showed a decrease in second month of treatment but increased slightly in the third month.
Ashwagandha has energy boosting properties and is recommended as a dietary supplement for cardio protection.\[^7\] In a study the effect of Ashwagandha leave was evaluated for lipid peroxidation in stress. The herb was found to have a very good antioxidant activity which may in part explain the anti-stress, congestion facilitating, anti-inflammatory and antiageing effects of this herb.\[^8\]

Stress, as a major cardiovascular risk factor leads activation of sympathoadrenal and hypothalamic pituitary adrenal (HPA) axis and causes oxidative stress. Withania possesses a potent antistressor effect and alleviates stress induced changes and provides cardioprotection.\[^9\] The prime risk factors affecting hypertensive subjects were found to be smoking, alcohol, diet, work stress and family stress.

CONCLUSION

Ashwagandha has several properties like having anti-inflammatory effects, anti-tumor effects, and immune-modulatory properties, as well as exerting an influence on the endocrine, nervous and cardiopulmonary systems of the body. On the basis of the current study, it was inferred and concluded supplementation of Ashwagandha with milk is effective in the treatment of stress induced hypertension. Therefore, it can be said that Withania somnifera provides a natural alternative and has lesser side-effects. However, for concrete evidence and its application as a drug in as per the stricter norms of drug development, more studies are required at a higher level.

REFERENCES


