

Case Report

Ashwagandha-The Nature's Gift to Mankind

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Withania somnifera commonly known as Ashwagandha, Indian Ginseng, poison gooseberry or winter cherry is a plant in the solanaceae family or night shade family. It is used as one of the most powerful herbs in Ayurvedic healing, has been used since ancient times for a wide variety of conditions, and is most well-known for its restorative benefits. Traditionally, it is believed that a person who consumes this herbal medicine will gain horse like strength and vitality.



Description

This species is short, tender perennial shrub growing 14-30 inches tall. Leaves are dull green, elliptic, usually up to 10-12 cm long. The flowers are small, green and bell shaped. The ripe fruit is orange red.

Etymology

Etymology is nothing, it is just the study of words, their origins, how their form and meaning have exchanged over time, thus in pharmacy, etymology means the history of drug and its meaning. The species name somnifera means "sleep-inducing" in Latin.

Cultivation

Withania somnifera is cultivated in many of the drier regions of India, such as mandasur district of Madhya Pradesh, Punjab,

Sindh, Gujarat and Rajasthan. It is also found in Nepal, China and Yemen.



Pathology

Ashwagandha is prone to several pests and diseases. Leaf spot disease caused by *alternariaalternata* Is the most prevalent disease, which is most severe in the plains of Punjab, Haryana, Jammu and Kashmir and Himachal Pradesh? Bio deterioration of its pharmaceutically active components during leaf spot disease has been reported.

Culinary Use

The berries can be used as a substitute for rennet in cheese making.

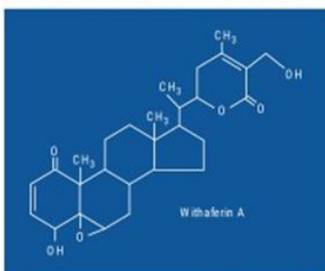
Biochemistry

The main chemical constituent are;

- Alkaloids
- Steroidal lactones

These include tropine and cuscohygrine. Tropine is a derivative of tropane containing a hydroxyl group at third carbon. It is also known as 3-tropanol. Benzatropine and etybenzatropine are derivatives of tropine. It is a building block of atropine, an ant cholinergic drug prototypical of muscarinic antagonist class.

Figure 1: Chemical Structure of Withaferin A



- Ashwagandhine
- Ashwaganidhine
- Somniferine

All of them have been exclusively identified in the ashwagandha plant.

Traditional Medicinal Uses or Powerful Health Benefits

Ashwagandha, the magical herb, is considered to be a nature's gift to mankind. For centuries, Ayurvedic medicine has used it to treat people for their day to day woes such as stress, anxiety, exhaustion, lack of sleep et al. And with an abundance of antioxidants, iron and amino acids, it's no surprise that Ashwagandha is one of the most powerful herbs in Ayurvedic healing. It is classified as a Ramayana i.e. rejuvenation in Ayurveda and expected to promote physical and mental health, restore the body and increase longevity. It has been glorified over time for its dual capacity to energize and calm at the same time.



But what exactly is Ashwagandha? It is a small shrub with yellow flowers and a red fruit, native to India, North Africa, and the Middle East. The extract is typically taken from the berries or roots of the plant. The Sanskrit term Ashwagandha translates to "smell of horse", and rightly so. Traditionally, it is believed that a person who consumes this herbal medicine will gain horse-like strength and vitality. It is also referred to as *Withania Somnifera* (Latin name), Indian Ginseng or Winter Cherry. "Ashwagandha can be taken in the form of powder or tablet. For added benefit, it

can also be put in to Kashmiri kahwa, which is a green tea. Ashwagandha has hormone balancing, anti-inflammatory, antioxidant properties which can prevent and treat a number of diseases."

Dr Ash tosh Gautama, Clinical Operations and Coordination Manager at Baidyanath

It is popularly used for boosting immunity, anti-ageing, joint pain and insomnia. Due to its active ingredient called withanolides, Ashwagandha is also used as an "adaptogen" to help the body cope with daily stress, as a general tonic and for improving thinking ability. It also improves the brain's memory functions like attention and concentration, hence helping with the symptoms of Parkinson's, Alzheimer's and other neurodegenerative diseases. It enables the body to reserve and sustain vital energy throughout the day while promoting sound, peaceful sleep at night." These varied benefits are what make Ashwagandha a go-to choice in Indian herbal medicine.

10 Health Benefits of Ashwagandha

- 1) The benefits of Ashwagandha are perfect for those battling stress, as it inhibits high levels of cortisol, 'the stress hormone'. It is in fact used in tranquilizers and antidepressants drugs, since it helps relieve physical and mental stress and overcome depression.
- 2) Ashwagandha has a rich history in ayurveda for its wound healing abilities. Traditionally, fresh leaves were used topically to heal joint pains, skin sores and to reduce swelling.
- 3) The results published in the Indian Journal of Psychological Medicine show that Ashwagandha helps promote relaxation as it is a natural adaptogen.



- 4) In Ayurveda, Ashwagandha is referred to as balya, which means giving strength in conditions like general debility. It is known to improve energy, increase stamina and endurance.
- 5) The exotic herb is a promising alternative treatment for a variety of mental degenerative diseases because it has demonstrated an ability to promote the growth of nerve cells, and protect the brain cells from the harmful effects of the environment.

6) Ashwagandha is used as an aphrodisiac as well, since it supports sexual health.

7) It has been used for centuries as a general body tonic, as it makes you feel stronger and healthier. It is also present in Chyawanprash, the delicious and famous concoction stocked up in every Indian household.

8) In addition to boosting your overall immunity, Ashwagandha also has the potential to be a serious anti-cancer agent as it slows the growth of cancerous tumors.

9) "Ashwagandha also acts on the endocrine system by encouraging hormone balance", says Dr Ash tosh Gautama, Clinical Operations and Coordination Manager at Baidyanath. Studies suggest reduction in symptoms such as hot flashes and mood swings during menopause.

10) The rejuvenating properties of Ashwagandha make it very effective in treating insomnia. It calms the nervous system, eases stress and gets rid of sleeplessness. Traditionally, it is used as a powder mixed with honey and warm milk for calming vata and regulating your sleep and wake cycles. You can also have a cup of hot milk mixed with 1 teaspoon of powdered Ashwagandha before bedtime.

Beauty Benefits of Ashwagandha

Tired of looking in the mirror at wrinkled, dry, sagging skin? It's Ashwagandha to the rescue. Its potent antioxidant properties help protect the skin against free radical damage and slow down the ageing process by firming up your skin for a more youthful look.

◆Skincare: Ashwagandha stimulates DHEA, which is a precursor to both testosterone and estrogen and stimulates the production of natural skin oils. It also promotes the production of vital compounds and proteins for healthy skin such as hyaluronan for skin hydration, elastin to keep the skin supple and collagen for skin strength. For glowing skin, you can also use Ashwagandha as a toner with dried ginger and lemon.

◆Healthy Hair: Used in shampoos, Ashwagandha is believed to help improve scalp circulation and strengthen the hair, as well as help get rid of dandruff. It also appears to stimulate production of melanin, the pigment responsible for the colour of your hair. So, it may actually reverse greying of hair. And if that wasn't enough, it also helps deal with hair loss.

Moderate Interaction: Be cautious with this combination

Medications that decrease the immune system (Immunosuppressant's) interact with ASHWAGANDHA. Ashwagandha seems to increase the immune system. Taking ashwagandha along with medications that decrease the immune system might decrease the

effectiveness of medications that decrease the immune system.

Some medications that decrease the immune system include azathioprine (Imuran), basiliximab (Simulect), cyclosporine (Neoral, Sandimmune), daclizumab (Zenapax), muromonab-CD3 (OKT3, Orthoclone OKT3), mycophenolate (CellCept), tacrolimus (FK506, Prograf), sirolimus (Rapamune), prednisone (Deltasone, Orasone), corticosteroids (glucocorticoids), and others.

Sedative medications (Benzodiazepines) interacts with ASHWAGANDHA

Ashwagandha might cause sleepiness and drowsiness. Drugs that cause sleepiness and drowsiness are called sedatives. Taking ashwagandha along with sedative medications might cause too much sleepiness. Some of these sedative medications include clonazepam (Klonopin), diazepam (Valium), lorazepam (Ativan), and others.

Sedative medications (CNS depressants) interacts with ASHWAGANDHA

Ashwagandha might cause sleepiness and drowsiness. Medications that cause sleepiness are called sedatives. Taking ashwagandha along with sedative medications might cause too much sleepiness. Some sedative medications include clonazepam (Klonopin), lorazepam (Ativan), phenobarbital (Donnatal), zolpidem (Ambien), and others.

- Minor Interaction: Be watchful with this combination
- Thyroid hormone interacts with ASHWAGANDHA

The body naturally produces thyroid hormones. Ashwagandha might increase how much thyroid hormone the body produces. Taking ashwagandha with thyroid hormone pills might cause too much thyroid hormone in the body, and increase the effects and side effects of thyroid hormone.

Side Effects

Ashwagandha is possibly safe when taken by mouth short-term. The long-term safety of ashwagandha is not known. Large doses of ashwagandha might cause stomach upset, diarrhea, and vomiting. It's not known whether it's safe to apply ashwagandha directly to the skin.

Special Precautions & Warnings

- Pregnancy and breast-feeding: Do not use ashwagandha if you are pregnant. It is rated likely unsafe during pregnancy. There is some evidence that ashwagandha might cause miscarriages. Not enough is known about the use of ashwagandha during breast-feeding. Stay on the safe side and avoid use.
- Diabetes: Ashwagandha might lower blood sugar levels. This could interfere with medications used for diabetes and cause blood sugar levels to go to low. If you have diabetes, monitor your blood sugar closely.

- High or low blood pressure: Ashwagandha might decrease blood pressure. This could cause blood pressure to go to low in people with low blood pressure; or interfere with medications used to treat high blood pressure. Ashwagandha should be used cautiously if you have low blood pressure or take medications for your blood pressure.
- Stomach ulcers: Ashwagandha can irritate the Gastro Intestinal (GI) tract. Don't use ashwagandha if you have a stomach ulcer.
- "Auto-immune diseases" such as Multiple Sclerosis (MS), lupus (Systemic Lupus Erythematosus, SLE), Rheumatoid Arthritis (RA), or other conditions: Ashwagandha might cause the immune system to become more active, and this could increase the symptoms of auto-immune diseases. If you have one of these conditions, it's best to avoid using ashwagandha.
- Surgery: Ashwagandha may slow down the central nervous system. Healthcare providers worry that anesthesia and other medications during and after surgery might increase this

effect. Stop taking ashwagandha at least 2 weeks before a scheduled surgery.

- Thyroid disorders: Ashwagandha might increase thyroid hormone levels. Ashwagandha should be used cautiously or avoided if you have a thyroid condition or take thyroid hormone medications.

Did you Know

Ashwagandha has immune boosting, antioxidant, anti-inflammatory, and anti-stress, sleep inducing, anti-bacterial and anti-convulsant properties. It is gift given by nature.

Reference

1. Gokhale SB, Kokate CK, Purohit AP (1991) "A text book of Pharmacognosy", NiraliPrakashan, 34th edition 9.63-9.65.

External links:-

2. <http://m.food.ndtv.com/ayurveda/ashwagandha-the-powerful-health-benefits-and-beauty-benefits-you-need-to-know-1220328>