



Herbal Remedies for Paralysis for Bell's Palsy, Stroke, and Spinal Cord Injury

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Abstract

Paralysis is a medical condition where a person loses the ability to control their muscles because the nerves that send signals to the muscles aren't working properly. The main reasons for paralysis include stroke, injury to the spinal cord, and Bell's palsy. In traditional medicine, the focus is on treating the condition right away and helping patients recover through rehabilitation. However, even after treatment, long-term improvement can be difficult. In Ayurveda, paralysis is seen as a problem related to Vata, and they suggest using herbal treatments that help repair nerves, reduce inflammation, and restore normal body function. This review looks at some important Ayurvedic herbs like Ashwagandha, Brahmi, Giloy, Guggulu, Shankhpushpi, Vacha, and Jatamansi. Research shows that these herbs have abilities to fight free radicals, promote nerve growth, reduce swelling, and ease anxiety. Studies, both done in labs and in limited human tests, suggest that these herbs can be helpful when used together with standard rehabilitation methods. More research, especially well-structured clinical trials, is needed to find the best way to use these herbs safely and effectively.

1. Introduction
A partial or whole loss of voluntary muscle control brought on by compromised neuromuscular signaling is referred to as paralysis. It could result from damage to the spinal cord, brain, or peripheral nerves. The most frequent cause of paralysis worldwide is still stroke, which is followed by neuropathies like Bell's palsy and traumatic spinal cord injuries [1-3]. Thrombolysis for stroke, corticosteroids for Bell's palsy, surgical stabilization for SCI, and long-term rehabilitation are examples of conventional therapy [2]. Full functional recovery is still uncommon, though, which has sparked interest in complementary therapies like Ayurveda. According to Ayurveda, exacerbated Vata dosha, which controls brain and motor activities, is the cause of paralysis (Pakshaghata/Ardita). In order to restore neuronal integrity and muscle tone, treatment focuses on rasayana therapy, cleansing techniques (Panchakarma), and Vata-pacifying herbs [4,5].

Key Words - Traditional Medicine, Paralysis, Neuroprotection, Herbal Medicine, Rasayana Therapy, Stroke Rehabilitation, Bell's Palsy, Neuroprotection.

2. Ayurvedic Perspective

In Ayurveda, conditions like Pakshaghata (hemiplegia), Ardita (facial paralysis), Sarvanga Vata (generalized paralysis), and Ekanga Vata (monoplegia) are discussed. The treatment aims to calm a restless Vata, improve blood flow, support nerve health, reduce inflammation, and promote brain adaptability [4,5]. Common approaches include Abhyanga, Basti, Nasya, and physical therapy, often combined with herbal treatments.

3. Key Herbs

Ashwagandha, also called *Withania somnifera*, is a key Ayurvedic medicine used to treat paralysis. It has qualities that help the body handle stress, fight free radicals, reduce inflammation, and repair brain cells. Studies show it can lower the size of brain damage areas in stroke models [6,7]. Brahmi, or *Bacopa monnieri*, contains compounds called bacosides that help with memory and the growth of brain connections. These compounds also protect the brain in cases of reduced blood flow [8,9]. Giloy, or *Tinospora cordifolia*, helps the immune system, fights free radicals, and protects the energy-producing parts of cells, which supports the recovery of damaged nerves [10]. Jatamansi, or *Nardostachys jatamansi*, reduces brain inflammation and also helps ease anxiety and protect brain cells [11]. Shankhpushpi, or *Convolvulus pluricaulis*, is a brain tonic that has antioxidant properties and helps protect brain cells from damage caused by reduced blood flow [8]. Vacha, or *Acorus calamus*, has properties that protect the brain, reduce inflammation, and ease muscle spasms, which can help with issues caused by nerve damage [12]. Guggulu, or *Commiphora mukul*, has pain-relieving and anti-inflammatory properties that are helpful for conditions linked to Vata imbalances [4,13].

4. Summary Table: Key Ayurvedic Herbs Used in Paralysis and Their Actions

Herb (Botanical Name)	Key Constituents	Primary Pharmacological Actions	Relevance in Paralysis	Supporting Evidence (Brief)
Ashwagandha (Withania somnifera)	Withanolides, alkaloids, sitoindosides	Adaptogen, antioxidant, anti-inflammatory, neuroprotective, anti-apoptotic	Reduces neuronal damage, improves stress tolerance & motor strength	Demonstrated to increase recovery in stroke animals and decrease the size of cerebral infarcts.
Brahmi (Bacopa monnieri)	Bacosides A & B, flavonoids	Enhances synaptic activity, antioxidant, neurotrophic	Protects brain cells and supports cognitive recovery after ischemia	Improve antioxidant enzyme activity and neural plasticity
Giloy (Tinospora cordifolia)	Diterpenoid lactones, alkaloids, glycosides	Immunomodulatory, antioxidant, anti-inflammatory	Reduces oxidative stress and supports neuronal survival	Observed neuroprotective and cytoprotective actions
Jatamansi (Nardostachys jatamansi)	Sesquiterpenes, nardosinone, jatamansone	Sedative, anxiolytic, neuroprotective, anti-inflammatory	Reduces neuroinflammation that contributes to nerve injury	Protective effects observed in neurodegenerative models
Shankhpushpi (Convolvulus pluricaulis)	Flavonoids, coumarins, kaempferol glycosides	Nootropic, antioxidant, neuroprotective	Prevents ischemia-induced neuronal damage	Shown to restore antioxidant enzymes in ischemic brain
Vacha (Acorus calamus)	β -asarone, α -asarone, phenylpropanoids, saponins	Anti-inflammatory, analgesic, antioxidant, neuroprotective	Improves neuropathic pain and nerve conduction	Positive effects seen in sciatic nerve injury models
Guggulu (Commiphora mukul)	Guggulsterones, resin acids, essential oils	Anti-inflammatory, analgesic, antioxidant	Reduces stiffness, swelling and nerve-related pain	Traditionally used in Vata disorders; modern data support anti-inflammatory effects

6. Clinical and Experimental Evidence**Stroke-related paralysis**

Ashwagandha, also known as *Withania somnifera*, has been closely studied in animal studies involving ischemic stroke. In mice, taking Ashwagandha before a stroke greatly reduced the size of the damaged brain area, helped improve movement recovery, and reduced the activity of cell death signals, showing that it can protect brain cells and prevent cell death [6,7]. In rat studies on brain ischemia, *Bacopa monnieri* also demonstrated strong antioxidant and brain-protecting effects, improving brain communication and reducing harmful chemical reactions in the brain tissue [8,9]. A study looking at a full Ayurvedic rehabilitation approach for ischemic stroke patients found results that were similar to those from modern physiotherapy-based treatments, showing that integrated care models are both effective and safe [1].

Spinal cord injury (SCI)

Reversing paralysis after spinal cord injury is still hard because of oxidative stress and inflammation. Some Ayurvedic herbs like *Tinospora cordifolia*, ashwagandha, and guggulu have anti-inflammatory and antioxidant properties that may help protect cells from damage [4,10,13]. Even though more high-quality clinical trials are needed to confirm these results, reports from Ayurvedic practices and observational studies suggest that using these herbs along with Panchakarma and physiotherapy can help improve spasticity, muscle control, bladder function, and overall quality of life [4,5].

Bell's palsy (Ardita)

In Ayurveda, Bell's palsy is known as *Ardita* and is considered a condition that mainly affects the Vata dosha, which is linked to nerves and muscles. Traditional Ayurvedic treatments include *Nasya*, which is the use of medicated oils through the nose, *Abhyanga*, which is a type of oil massage, and the use of herbs that help strengthen nerves, such as Ashwagandha, Brahmi, and Jatamansi. These treatments are often combined with facial physical therapy, which can help speed up recovery, as seen in some patient cases. However, there is not enough data yet to fully understand how effective these methods are on a larger scale.

Mechanistic support from laboratory models

Experimental studies in pharmacology support the traditional uses of Ayurvedic plants. Certain compounds found in these plants, like withanolides from Ashwagandha, bacosides from Brahmi, diterpenoids from Giloy, and guggulsterones from Guggulu, have been shown in lab and real-world tests to help with reducing damage, fighting inflammation, protecting brain cells, and improving the repair of connections in the brain [6–13]. These effects align with the main goals of rehabilitation for paralysis, which are to reduce further harm, protect the existing brain cells, and support the brain's natural ability to heal and reorganize itself.

7. Evidence Summary

Studies show that using Ashwagandha and Brahmi can greatly lower oxidative stress and reduce the size of heart muscle damage in animals [7–9]. In real-world cases, adding Ayurvedic treatment methods as part of care can help stroke and spinal injury patients recover better in their daily activities [1,4]. For Bell's palsy, Ayurvedic treatments like Nasya, Abhyanga, and nerve-strengthening herbs are important parts of the therapy called *Ardita* [4,5].

8. Safety Considerations

When using herbal medicines, it's important to consider how they might interact with other drugs, make sure the correct amount is taken each time, and check that the quality of the herbs is good. It's best to have a trained professional oversee your use.

9. Conclusion

Ayurvedic herbal therapy offers treatments that can help people recover from paralysis. Herbs like Ashwagandha, Brahmi, Giloy, Shankhpushpi, Jatamansi, Vacha, and Guggulu have been used traditionally and there is some evidence to support their use. However, it's important to create clear guidelines through proper research studies. One good approach is integrative rehabilitation, which mixes Ayurveda with modern methods used to help people regain movement and function after paralysis.

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