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# A review on wound healing properties of *Tinospora Cordifolia*

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**Abstract**--Wound healing is the body's natural process of regenerating dermal and epidermal tissue. The healing cascade is activated when platelets come into contact with exposed collagen leading to platelet aggregation and the release of clotting factors resulting in the deposition of a fibrin clot at the site of injury. . *Tinospora Cordifolia* (Menispermaceae) **Synonyms:** Giloe, Gurcha, Gulvel, Gilo. It contains Alkaloids, Glycosides, Steroids, Sesquiterpenoids, Aliphatic compound, and Essential oils, Mixture of fatty acids and Polysaccharides. **Pharmacological Activities:** Adaptogenic activity, Immunomodulatory Activity, Anticancer Activity, Anti-Inflammatory Activity, Antimalarial Activity, Anti-Allergic Rhinitis Activity, Wound Healing Activity, Antioxidant Activity, Hepatoprotective Activity, Anti-Diabetic Activity, Anti-Osteoporotic Activity, Radio-Protective Activity, Cardio-Protective Activity. The review article highlight the effect of the extract of *tinospora cordifolia* of the wound when is given in dose range of 200 – 250 mg/kg.

**Keywords**--*Tinospora Cordifolia*, wound healing.

## Introduction

Wound healing is the body's natural process of regenerating dermal and epidermal tissue. The healing cascade is activated when platelets come into

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contact with exposed collagen leading to platelet aggregation and the release of clotting factors resulting in the deposition of a fibrin clot at the site of injury. The fibrin clot serves as a provisional matrix and sets the stage for the subsequent events of healing. The fibroblast is the connective tissue cell responsible for collagen deposition required to repair the tissue injury, this collagen accounts for 30% of the total protein in the human body. In normal tissues, collagen provides strength, integrity and structure. When tissues are disrupted following injury, collagen is required to repair and restore normal structure and function. Research on wound healing agents is one of the developing areas in modern biomedical sciences and many traditional practitioners across the world particularly in countries like India and China have valuable information of many plants for treating wounds and burns. Traditional forms of medicine practiced for centuries in Africa and Asia are being scientifically investigated for their potential in the treatment of wound related disorders. Wound care can be traced back to early civilizations, and many of these treatments were based on the use of herbal remedies. *Tinospora Cordifolia* (Menispermaceae).

**Synonyms:** Giloe, Gurcha, Gulvel, Gilo. Leaves are simple, alternate, exstipulate, cordate (heart shaped), long petioles up to 15 cm long, roundish, pulvinate. Stem are rather succulent with long filiform fleshy aerial roots arising from the branches. Flowers are yellow or greenish yellow on axillary and terminal racemes, unisexual, small on separate plants and appearing when plant is leafless. Male flower clustered and female usually solitary. Flowers grow during summer. Fruits are aggregates of 1-3 ovoid smooth drupelet on thick stalk with sub terminal style scars, Scarlet or orange red color. Fruits grow during winter. Seeds are white, bean shaped, curved. Bark are creamy white to grey brown, warty, deeply left spirally, the space in between being spotted with large rosette like lenticels.

**Chemical Constituents:** It contains Alkaloids, Glycosides, Steroids, Sesquiterpenoids, Aliphatic compound, and Essential oils, Mixture of fatty acids and Polysaccharides.

**Pharmacological Activities:** Adaptogenic activity, Immunomodulatory Activity, Anticancer Activity, Anti-Inflammatory Activity, Antimalarial Activity, Anti-Allergic Rhinitis Activity, Wound Healing Activity, Antioxidant Activity, Hepatoprotective Activity, Anti-Diabetic Activity, Anti-Osteoporotic Activity, Radio-Protective Activity, Cardio-Protective Activity.

### **Investigation of Wound Healing Activity of Extracts from *Tinospora***

**Cordifolia:** This research work explains the use of the different extracts of different parts of Plants such as stem, leaf and roots. A study was carried out using wistar strain albino rat (150-200g) of either sex. Each animal was wounded using light ether anaesthesia after 12 hrs of starvation. The animals were divided into 12 groups each consist of 6 animals. Each group received dose of different extract and control group received 1ml ethanol. The dose of 200mg/kg was given to each group every day and effect was checked every 4<sup>th</sup> day and dosing was done for 16<sup>th</sup> days. These complete studies show that *tinosporea cordifolia* is effective for wound healing.

**The Potential Role of Genus Tinospora in Wound Healing: a review:** These article highlight the ability of each and every genus of tinospora for the wound healing. And it was found that only two genus of tinosporia (ie. Tinosporia Cordifolia and Tinosporia Crispa) show the evidence of ability of wound healing.

**Influence of Tinospora cordifolia on wound healing in wistar rats:** The work explore the study related to effect the methanolic extract of tinospora cordifolia on the wound of wistar rats. These rats were group and were given the extract dose of 250mg/kg for 10days. Evaluated for the effect on the wound. The methanolic extract shows the fast effect than other extract.

### **Conclusion**

The above studies highlight the effect of tinospora cordifolia extract on the wound of the rats. The methanolic extract of tinospora cordifolia was more effect on the wound as compared petroleum and aqueous extract with dose range of 200 – 250 mg/kg within 10days.

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