

Herbal preparation for accelerating wounds and skin inflammations healing: A Granted Patent Case Study

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ABSTRACT

Herbal formulation has long lasting history of usage for the benefits of human race. Indian patent system prevents granting monopoly rights for traditional knowledge.

KEYWORDS: Saffron, anticancer, antitumor, *Crocus sativus*, stigma

1 INTRODUCTION

Herbal preparations are widely used in herbal medicine, cosmetology, and conventional medicine. These formulations have active substances that act on skin for alleviating several ailments. Skin inflammations is a very serious skin problem which may lead to an infection. Healing of inflammation cannot be initiated until haemostasis mechanisms, a multifactorial and a multistep process, start to work. The most important element of haemostasis mechanism is blood clotting which prevents further loss of fluids and electrolytes from a wound and reduces pollutions coming from outside environment. Several synthetic compounds are used to accelerate the healing process. But as per the latest trend there is focus on herbal preparations for accelerating the healing process owing to the less side-effects of herbal preparations. In this paper I have discussed a granted United States patent (US10213469B2) related to a herbal formulation for accelerating wounds and skin inflammations healing. The herbal formulation may be used in the treatment of conditions associated with interruption of anatomical continuity of outer layers of skin or deeper tissues, which leads to an accelerated healing process and obtaining desired results even in the treatment of chronic and inflammatory complications after a surgery.

2 US10213469B2 (HERBAL PREPARATION FOR ACCELERATING WOUNDS AND SKIN INFLAMMATIONS HEALING AND ITS APPLICATION)

The herbal formulation disclosed in United States patent number US10213469B2 has comparable bactericidal and bacteriostatic properties with pharmacological formulations. The herbal formulation also has an exacerbated therapeutic effect which lead to rapid self-cleaning of a skin inflammation without causing side effects. The herbal formulation causes normal growth of epithelium and accelerates granulation of skin tissues. It also helps to maintain moisture of wound environment.

The herbal formulation contains an alcoholic extract of *Melittis melissophyllum* L (10% to 40% w/w), and other active substances such as flavonoids (3.6% to 13.4% w/w), polyphenols (11.25% to 45% w/w), tannins (5% to 8% w/w), amine compounds (0.475% to 1.9% w/w), bitter substances (11.55% to 46.2% w/w), and mineral salts (6% to 10% w/w) emulsified or suspended in an organic based medium.

The herbal formulation may be provided in the form of an ointment, wherein it contains, an organic basis, Vaseline album in the amount from 40% to 70% w/w. The herbal formulation may be provided in the form of an ointment or gel, wherein it contains an organic basis glycerol or propylene glycol in the amount of 2% w/w, trimethylamine in the amount of 2% w/w, hydroxycellulose in the amount of 1% w/w, and purified water in the amount from 30% to 35% w/w.

The formulation was analyzed with GC-MS to contain ethylene glycol, lactic acid, glycolic acid, 3-hydroxypropionic acid, glycerol, benzenoacetic acid, succinic acid, glyceric acid, 3,4-dihydrocoumarin, hydroquinone, coumarin, malic acid, cinnamic acid, tyrosol, 2-hydroxyphenylpropanoic acid, vanillic acid, azelaic acid, o-coumaric acid, protocatechuic acid, quinic acid, phytol, campesterol, stigmasterol, β -sitosterol, α -fructofuranose, β -fructofuranose, α -glucopyranose, β -glucopyranose, saccharose, fatty acids, palmitic acid, linoleic acid, linolenic acid, amino acids, and resin acids.

In addition, according to the present invention, flavonoids as a means of sealing walls of small blood vessels have been used as an anti-bleeding substance, preventing ecchymosis and varicose veins. Their activity is associated with inhibition of enzymes present in vessel walls—hyaluronidase, which is responsible for degradation of one of the intracellular substances and increase permeability of spaces between cells. It has also been established that flavonoids have an anti-aggregation effect on platelets.

The formulation was also evaluated in *in-vivo* assays using mammals with open wounds to assess the wound healing potential. The results showed that the formulation accelerates wound healing in experimental group of mammals as compared to the wound healing in the control group. Experimental animal group showed complete epithelialization of the wound surface. Increase in phagocytic index and number of phagocytes was also observed.

3 SUMMARY

In a nutshell the invention discloses a safe and effective herbal preparation for accelerating wounds and skin inflammations healing and its application. The formulation showed comparable wound healing activity in *in-vivo* experiments.

4 REFERENCES

- [1] US201816035601, Herbal preparation for accelerating wounds and skin inflammations healing and its application Print, Pub. Date. 26-Feb-2019.