



KIKKISA (STRIAE GRAVIDARUM) AND ITS AYURVEDIC MANAGEMENT- A REVIEW

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ABSTRACT

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Purpose : Striae gravidarum is a common cosmetic problem of gravid and parous women related to pregnancy. Striae gravidarum means pinkish or purplish, scar like lesions, latter becoming white (lineae albicans), on the breasts, thighs, abdomen and buttocks, due to weakening of elastic tissues, associated with pregnancy, overweight, rapid growth during puberty and adolescence, Cushing's syndrome, and topical or prolonged treatment with corticosteroids. (Dorland's Medical Dictionary, 21st Edition 1968). Despite of common incidence, it is left ignored and untouched. There are limited research trials to find simple and effective measures to prevent or cure these disfiguring marks. *Ayurveda* suggests many herbal formulations for its treatment under the name of *Kikkisa* which can be easily co-related to striae gravidarum due to its characteristic features. **Method** : Among various Ayurvedic formulations mentioned, a combination of four common herbs is being proposed for further evaluation to open new horizons for specifically oriented research trials. A paste of *Nimba*, *Badari*, *Surasa*, *Manjishtha* is to be prepared fresh and applied over the affected areas. The treatment may prove effective as proven in various skin related studies already conducted.

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Introduction

Every woman is beautiful and deserves appreciation as well as admiration. God has instilled unique qualities in each woman. But, women are commonly subjected to beauty standards and stereotypes regarding their appearances and looks. This takes its toll on their confidence and efficiency. Skin shades other than fair are getting acceptance gradually but flawless skin is still the most desired one.

Women go through many stages in the journey of her life among which pregnancy is the most glorious and vulnerable of all. In Ayurveda, Kikkisa (pregnancy stretch marks or striae gravidarum) is described as an unwanted consequence of Garbhawastha (pregnancy). Kikkisa is a specific form of scarring of the skin of the abdominal area caused by tearing of the dermis due to sudden weight gain during pregnancy. About 90% of women are affected with these scars. Over time Kikkisa may diminish, but will not disappear completely and persist as silvery lines. Low maternal age, high body mass index, weight gain over 15 kg and higher neonatal birth weight are associated with its occurrence. It usually forms during the last trimester, and usually on the belly, but can also be found on breasts, thighs, hips, lower back and buttocks.

About 15 % of the population consult their general physicians each year because of a skin complaint. General practice consultation rates for diseases of skin increase with age and are slightly higher for females. Consultation rates for skin disease in general practice have probably increased over the last 20 years in absolute and relative terms.

Materials and Method

Dermatology, as with all fields of medicine, is continuously evolving. Introduction of newer drugs, surgical procedures and lasers have revolutionised the treatment of various skin diseases. Dermatological therapies can be divided in three parts – Topical therapy, systemic therapy and surgery. Topical therapy remains the mainstay of the treatment of most of skin diseases. Treatment by topical methods leads to intimate skin contact between the drug and skin and the risk of systemic side effects is minimised. It is estimated that 1.3% of the population are allergic to a cosmetic or cosmetic ingredient. Mercury is one of the common ingredient found in skin

lightening soaps and creams, (Mercury in skin lightening products - World Health Organization) which are commonly used in certain African and Asian nations (WHO, 2008; UNEP, 2008). In India, 61% of the dermatological market consists of skin lightening products. The main adverse effect of the inorganic mercury contained in skin lightening soaps and creams is kidney damage. Mercury in skin lightening products may also cause skin rashes, skin discoloration and scarring, as well as a reduction in the skin's resistance to bacterial and fungal infections.

Striae gravidarum are slightly depressed linear marks with varying length and breadth found in pregnancy. They are predominantly found in the abdominal wall below the umbilicus, sometimes over the thighs and breasts. These stretch marks represent the scar tissues in the deeper layer of the cutis. Initially, these are pinkish but after the delivery, the scar tissues contract and obliterate the capillaries and they become glistening white in appearance and are called striae albicans. Apart from the mechanical stretching of the skin, increase in aldosterone production during pregnancy are the responsible factors.

Ayurveda emphasizes prevention over cure and has thus listed numerous treatments to decrease the severity of Kikkisa. The proposed treatment is through local massage by freshly prepared paste made up of equal quantities of Nimba (*Azadirachta indica*) leaves, Badari (*Ziziphus mauritiana*) leaves, Surasa (*Ocimum sanctum*) leaves and Manjishtha (*Rubia cordifolia*) roots. These plants are enriched mainly with anti-inflammatory, wound healing, anti-ulcer and anti-microbial properties and are therefore used in many skin diseases. Studies have shown increased tensile strength of the healing tissue after treatment. In addition, scratching over the affected part is to be avoided in case of itching.

The contents of the formulation described above are briefly described as follows –

a) Nimba (*Azadirachta indica*) leaves : The people of India have long revered this tree for centuries, millions have cleaned their teeth with Nimba twigs, smiered skin disorders with the leaf juice, taken Nimba as a tonic, and placed its leaves in their beds, books, grainbins, cupboard and closets to keep away troublesome bugs. It possesses maximum useful non-wood products (leaves, bark, flowers, fruits, seed, gum, oil and Nimba cake) than any other tree species which are known to have antiallergenic, antidermatic, antifungal, anti-inflammatory, antipyorrhoeic,

predontitis, anti-scabic, diuretic, insecticidal, larvicidal, nematicidal, spermicidal and other biological properties. Biologically active principles isolated from different parts of the plant include – azadirachtin, meliacin, gedunin, salanin, nimbin, valassin, and many other derivatives of these principles.

b). Badari (*Ziziphus Mauritiana*) leaves : Chemical compositions of the leaves of *Z. mauritiana* are proteins and amino acids, flavonoids, alkaloids, glycosides, terpenoids, saponins, fibers, tannins and phenolic compounds. The phenolic compounds in *Z. mauritiana* have health beneficial effects which include antioxidant, anti-inflammatory, anti-hepatotoxic, anti-tumour and anti-microbial activity.

c) Surasa (*Ocimum Sanctum*) leaves : The leaves contain 0.7% volatile oil comprising about 71% eugenol and 20% methyl eugenol. The oil also contains carvacrol and sesquiterpene hydrocarbon caryophyllene. Fresh leaves and stem of Surasa extract yielded some phenolic compounds (antioxidants) such as cirsilineol, circimaritin, isothymusin, apigenin and rosmarinic acid and appreciable quantities of eugenol. Two flavonoids, viz., orientin and vicenin from aqueous leaf extract have glucuronide, orientin and molludistin. It also contains a number of sesquiterpenes and monoterpenes viz., bornyl acetate, α -elemene, neral, α - and β -pinenes, camphene, campesterol, cholesterol, stigmasterol and β -sitosterol. It works fine on disease of the skin, skin disorder associated pimples and lots of cosmetic firms use it as an ingredient in skin ointments attributable to its anti-bacterial properties. The various pharmacological properties are antioxidant activity, adaptogenic activity/antistress activity, immunomodulator activity, anticancer activity, chemopreventive activity, radioprotective activity, antihypertensive and cardioprotective activities, antimicrobial activity, central nervous system (CNS) depressant activity, analgesic activity, anti-inflammatory activity, antipyretic activity, hepatoprotective activity, memory enhancer activity, antifertility activity, antidiabetic activity, antiulcer activity, antiarthritic activity, anticataract activity, anticoagulant activity, anti-thyroid activity, anthelmintic, ethnoveterinary activity, anti-toxic effect.

d) Manjishtha (*Rubia Cordifolia*) roots : The roots and stems are well known source of Anthraquinones, the roots have also been reported as antioxidant, anti-inflammatory, anticancer, immunomodulator and hepatoprotective and are extensively used against blood,

urinary and skin diseases. The role of Manjistha in supporting skin health is evidenced by traditional and reported activities, which show that it act as potent blood purifier, antioxidant, anti-inflammatory, anti-stress, antimicrobial which can improve skin health. *R. cordifolia* is used as an antiseptic for wounds, skin diseases, anti-inflammatory and antioxidant agent, blood purifier and immunomodulator. The root extract of *R. cordifolia* was reported as an effective wound healing principle in experimental models as wound healer. Ethanolic extract and the hydrogel formulation of roots were found to be effective in the functional recovery and healing of wounds and also lead to histo-pathological alterations. It has anti-acne property, anti-arthritic property, anti-cancer property, anti-convulsant activity, anti-diabetic, anti-inflammatory activity, wound healing activity, anti-microbial activity, anti-oxidant activity, anti-peroxidative activity, anti-platelet activating effect, anti-proliferative property, antistress and nootropic activity, anti-ulcer activity, antiviral activity, diuretic activity, gastroprotective activity, hepatoprotective activity, immuno-modulating activity, neuroprotective and radiation protective.

The above described drugs are to be taken in equal quantity.

Drug administration: This paste will be prepared fresh and applied topically. The topical route has fewer side effects with easy self administration and it can be applied directly over affected area. Pregnancy is a vulnerable period and any intake of drug should exert significant benefits to outweigh its potential risks. According to Ayurveda, Lepa (paste) should not be applied at nights nor should it be allowed to stay on after it dries up.

Conclusion

This natural formulation should be subjected to practical evaluation in research trials in order to establish an effective treatment for Kikkisa. Simple epidemiological studies of Kikkisa conducted at a regional level are basic requirements of health care which will remove this stigma over pregnancy and remove the embarrassment to hide the marks. The drugs thus invented should also be made available at minimal prices and to every pregnant women for good maternal antenatal care.

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