Effect of Some Novel Medicinal Plants and Polyherbal Formulation on Stress Induced Alopecia

INTRODUCTION

Hair is one of the vital parts of the body considered to be protective appendages on the body and accessory structure of the integument along with sebaceous glands, sweat glands and nails. At the present time hair loss is common problem in men and women due to excessive exposure of chemicals in daily routine on scalp. Alopecia is a medical term for hair loss or thinning of hair can be a sign of serious diseases especially if the hair loses rapidly. Alopecia is dermatological disorder that has been recognized for more than 2000 years (Olsen, 1993) & is common throughout the world and has been estimated to affect between 0.2 % and 2% of the world population (Thorat, 2009). Apart from metabolic and hereditary causes alopecia has been observed as a major side effect of anticancer, immunosuppressant and many other drug treatments. Many people have tried conventional hair restoration methods such as laser treatments, harsh chemicals, pharmaceutical drugs or even surgery. Often these methods have limited success. The usage of synthetic drugs like minoxidil and finasteride (approved by FDA) have abbreviated due to their side effects (Suraj, et al., 2009).

These crises lead to the search for natural products from plant origin possessing potential hair growth activity. The folklore claim of medicine in various regions in the country and worldwide acclaims the hair growth promotion of medicinal plants belonging to various families, but lack of scientific literatures limited the use of these plants among community. Herbal medicines are a natural alternative for hair restoration, gray hair reversal and/or overcoming the health disorders that often result in thinning of hair. Many plants such as Cuscuta reflexa Roxb. (Shweta, et al., 2008), Prunus dulcis seeds (Suraj, et al., 2009) and herbal formulations of Hibiscus rosa-sinensis Linn. (Adhirajan, et al., 2003, & Rupali Thorat, et al., 2009,) are evaluated in in-vivo & in-vitro conditions and found effective in traditional system of medicine for hair growth promotion. (Ritu Jain et al., 2011).

Natural products are unequivocally advocated in the cosmetic and hair care industry and about 1000 different plant extracts have been examined with respect to hair growth activity; proanthocynidine from grape seeds (Vitis Vinifera) and beta-sitosterol in saw palmetto
(Serenoa serrulata) have shown remarkable effect (Takahashi, 1998). There are many products available prepared by combination of one or more herbal drug that find acceptability as hair tonics, hair growth promoters, hair conditioners, hair cleansing agents, antidandruff agents and for the treatment of alopecia and lice infection (Saraf, 1991). Vitamin deficiencies, poor nutrition, chemotherapy or hormonal problems can all cause or worsen cases of hair loss. Herbal remedies can contribute to restoring the body's balance.

Recently, introduced a mouse model launching experimental evidence that stress-induced hair loss is fact, and not fiction, as every so often imputed by a number of dermatologists. This mouse model provides new insights in to the pathophysiology of stress-induced hair growth inhibition and permits exploration of various strategies for therapeutic intervention. (Arck, 2001)

When an individual experiences intense stress chemicals in the body will transmit signals to the hair follicles, which causes them to enter a resting phase. During this phase there is no new hair growth. During the next few months hair will be shed normally but new growth will not occur to take its place. This uneven pattern can cause hair to appear thinner and eventually result in hair loss. In this model exposure to sonic stress inhibits the growth of a hair shaft producing (anagen) hair follicle by premature induction of hair follicle regression (catagen) and up-regulated keratinocyte apoptosis. (Milena, et al., 2004). The Present study is aimed at revealing the effect of some novel medicinal plants to diminish the stress induced alopecia on the basis of chemical constituents which are involved in induction of hair growth found in the above mentioned & other reported plants and herbal formulations, so that such formulations can be prepared which is likely to be more effective and less harmful compared to synthetic products available in the market. The study will evaluate the effect of various solvent extracts of selected plant on hair growth initiation and promotion in albino rats.