

TOCOVID SUPRABIO : A Patented Hair Growth Formulation

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- ***A new 8-month study showed “Tocovid[®] SupraBio[™] 50mg” oral supplementation promotes hair growth in men & women suffering from androgenetic alopecia (pattern baldness)***
- ***A new US patent has been granted for “Tocovid[®] SupraBio[™] 50mg” as a hair growth formulation that increases the number of hairs and prevents hair loss***

Background:

Hair loss or alopecia is a common problem in both males and females regardless of their age. It can cause significant psychological effects such as diminished self-esteem, emotional distress, embarrassment and social inadequacy (Cash et al, 1993). Hair loss can be due to genetic factors, aging, stress, mechanical damage to scalp & hair, skin infections, diseases that affect the body generally (e.g. thyroid disease), and use of certain medications such as anti-cancer drugs.

Common types of hair loss include:

- Androgenetic alopecia (also known as androgenic alopecia or male and female pattern baldness)
- Alopecia areata (also known as spot baldness)
- Telogen Effluvium (shedding or thinning of hair)

Androgenetic alopecia is the most common cause of hair loss, affecting about 50% of men and women older than 40 years of age (Olsen, 1994). Androgenetic alopecia is hereditary thinning of the hair induced by androgens (male hormones) in susceptible men and women. It usually begins between the age of 12 and 40 years old (Olsen, 1994) and is generally caused by three interdependent factors: male hormone dihydrotestosterone (DHT), genetic disposition and advancing age. DHT, a potent metabolite of the androgen testosterone, causes gradual and progressive shrinkage in hair follicles which leads to production of smaller and finer hairs. DHT also shortens the anagen growth phase of the hair follicle so the hair is shorter when it stops growing.

Possible options for the treatment of alopecia include reassurance, hair prostheses, surgery and topical/oral medications (Hogan & Chamberlain, 2000; Bertolino, 1993; Setty, 1970). The most common pharmacological management of androgenetic alopecia is topical minoxidil and finasteride taken orally. Clinical trials have shown that 2% minoxidil applied topically to the scalp could stimulate hair growth in some men and women while higher percentage of 5% showed increased therapeutic efficacy (Olsen et al, 2002). However, the main problem with topical minoxidil therapy is patient compliance as continued use is required to maintain hair growth (DeVillez et al, 1994; Trancik RJ, 1998). On the other hand, oral finasteride is associated with significant adverse effects such as decreased sexual drive, impotence and ejaculation disorders (Chen et al, 1996). Moreover, finasteride is not encouraged to be used in female patients of childbearing age as it may cause abnormalities in male fetuses.

Tocotrienol, a form of vitamin E, is a potent anti-oxidant and has been found useful in many health problems. There have been reports of beneficial effects of vitamin E in hair care products (Shipp, 1994) but its potential in the restoration of hair in patients taking tocotrienols as an oral supplement has yet to be explored. Thus, a study was performed in volunteers with androgenetic alopecia to compare the efficacy of tocotrienols oral supplementation with placebo (soya bean oil soft capsule) to improve hair coverage of the scalp and hair thinning. Tocovid[®] Suprabio[™], a patented self-emulsifying formulation containing all natural tocotrienols extracted from virgin crude palm oil, was used in this study.

Study Design:

28 volunteers (27 male, 1 female) aged 18 to 59 years with mild to moderately severe ongoing hair loss completed the 8-month study conducted at the School of Pharmaceutical Sciences, University Science of Malaysia. The volunteers had hair loss problem for approximately 2 – 5 years and most of them had hair loss pattern scale III according to the Norwood/Hamilton classification scale. They were instructed not to alter their hairstyle, the hair care products (shampoo, conditioners, etc) currently in use or dye their hair during the study period.

The volunteers were randomly selected to receive the tocotrienols supplementation (20 volunteers received Tocovid[®] Suprabio[™] 50mg, Hovid Bhd) or the placebo (8 volunteers received a soft gelatin capsule containing 600 mg soya bean oil), administered twice daily after meal for 8 months. Each Tocovid[®] Suprabio[™] 50mg soft gelatin capsule contained 50 mg of pure d-mixed tocotrienols as well as 23 IU of α -tocopherol. Hence, the total daily intake of tocotrienols for each volunteer in the treatment group was 100 mg. The Tocovid[®] Suprabio[™] 50mg was formulated with Tocomin[®] SupraBio[™] 20% Suspension (Carotech Bhd)

Hair counts and weight of hair in pre-selected evaluation area were measured before and every month after initiation of the study.

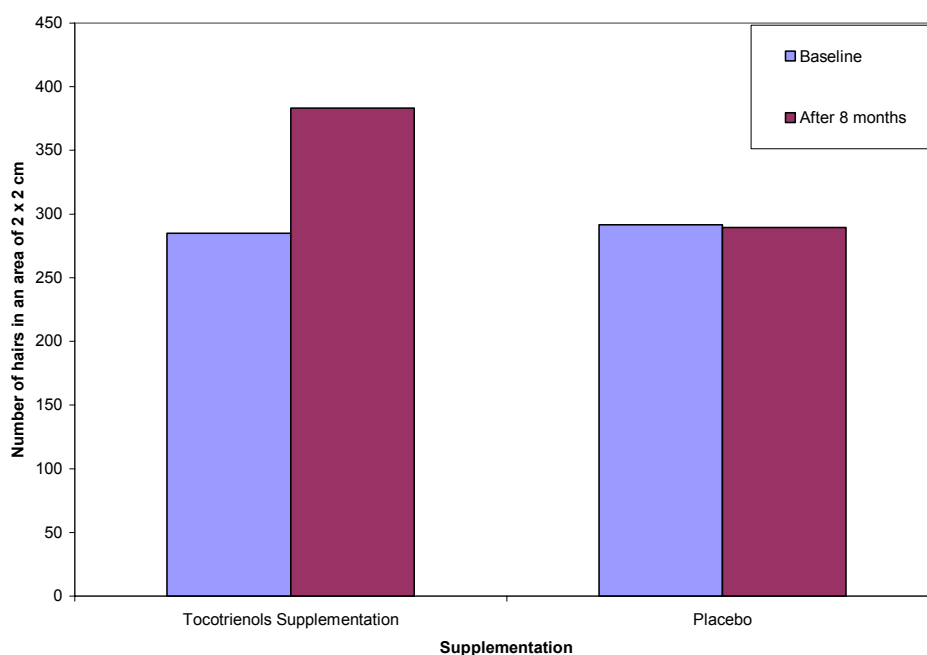
Study Results

As can be seen from figure 1, it is clearly evident that results in the tocotrienols supplementation group were significantly superior to those in the placebo group. Tocotrienols supplementation group showed statistically significant higher hair counts post-supplementation ($p < 0.01$). An average of 41.8% increase in the number of hair was observed after 8-month tocotrienol supplementation, with

- 8 volunteers (40.0%) showed > 50% hair growth
- 1 volunteer (5.0%) showed 25-50% hair growth
- 9 volunteers (45.0%) showed 10-25% hair growth
- 1 volunteer (5.0%) showed < 10% hair growth

Only one volunteer in the tocotrienols supplementation group had a slight decrease in the number of hairs (5.0%).

Figure 1. Number of Hair at Baseline and 8 months after Tocotrienols and Placebo Supplementation



On the other hand, of the 8 volunteers in the placebo group, only 1 (12.5%) showed more than 20% increase in hair count while 3 volunteers (37.5%) showed negligible increase. 4 (50.0%) volunteers had a decrease in the number of hairs. No statistically significant difference ($p > 0.05$) in the number of hairs was detected between baseline and post-supplementation, thus indicating that the placebo effect did not occur during this study and the increase in the number of hair observed in the volunteers receiving Tocovid[®] Suprabio[™] 50mg could be ascribed to tocotrienols supplementation. Moreover, statistically significant difference ($p < 0.01$) was detected in the percentage of change in the number of hairs between tocotrienol supplemented group and placebo group.

However, in terms of the increase in the weight of hair, no statistically significant improvement ($p > 0.05$) was detected after 8-month supplementation of tocotrienols as well as the placebo.

No severe side effects were observed in this study, thus indicating that long-term administration of 100 mg of tocotrienols for up to 8 months period was tolerable.

In view of the proven efficacy of Tocovid[®] Suprabio[™] 50mg in promoting hair growth in men and women suffering from androgenetic alopecia, the United States Patent and Trademark Office has recently granted a patent for Tocovid[®] Suprabio[™] 50mg as a hair growth formulation that increases the number of hairs and prevents hair loss.

Example of Scalp Pictures of Subjects

Volunteer 1 : Before Supplementation



Volunteer 1 : After Supplementation



Volunteer 2 : Before Supplementation



Volunteer 2 : After Supplementation

