
Subject: Über AGA

Posted by [Haar_Challenge_2021](#) on Sat, 14 Dec 2013 23:29:34 GMT

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Chronic systemic inflammation has been found to at the root of many serious disorders, such as cardiovascular disease, asthma, arthritis, cancer, diabetes, depression and androgenetic alopecia. These "age related" disorders are accompanied by a pathological increase of inflammatory cytokines. Lowering pro-inflammatory cytokines, such as tumor necrosis factor alpha, interleukin 6, interleukin 1(B) and/or interleukin B4, could help prevent and treat many age related diseases. After several published studies, which showed that inflammation is present in androgenetic alopecia, MPB Research reported these important findings to readers, particularly stressing the need to address inflammation in any hair loss treatment approach, including our recommended protocol. Excessive levels of cytokines can be systemically and topically countered by an appropriate regimen of drugs, nutrients, dietary changes, and/or hormones. For example, fish oil has been shown to effectively lower these levels, as does DHEA, Nettle extract, GLA, and some antioxidants (vitamin E and N-acetyl cysteine). Meanwhile certain herbal extracts patented by Asian companies, Emu oil, copper peptides and ketoconazole can be used to topically partially inhibit cytokine formation.

First we must recognize that hair loss is the consequence of hair cell apoptosis, or programmed cell death. Apoptosis is the final result of what is termed the caspase activation cascade. Essentially DHT, superoxide, and other free radicals damage the cell's mitochondria, and the damaged mitochondria in turn vomits cytochrome C, which activates the caspase 9 cascade. TGF-beta and alpha activate caspase 9 around hair follicles. The activated caspase 9 propagates downstream into caspase 3. Activation of caspase 3 is thought to be a direct cause of cell apoptosis (programmed cell death) in general. What then causes a caspase activation cascade and how can one intervene in the context of hair loss?

Protein Kinase C (PKC) as an executor of apoptosis PKC isozymes are involved in the final execution of hair cell apoptosis in relation to caspase 3. What are good inhibitors of PKC? Cycloporin (dangerous), Grape Seed Extract, Resveratrol (as in red wine), Vitamin E, and N-Acetyl Cysteine. Topically, Grape Seed Extract (a patented treatment for hair loss), and Perilla Leaf Extract.

Tumor Necrosis Factor Alpha (TNF-a) as a promotor of PKC and hair cell apoptosis. TNF-a induces the PKC isozymes and causes cell death through this induction. This pathway is known to be a major cause of hair loss. TNF-a is a quick acting proinflammatory cytokine, and TNF-a is over secreted in cases of rapid hair loss. How can TNF-a be safely inhibited? Ginkgo Biloba Extract, Stinging Nettle Extract, Green Tea Extract, and essential fatty acids found in fish, Emu, Borage, and Perilla oils. Topically, Perilla leaf extract may be useful.

TGF-Family as the bridge between DHT and the activation of the caspase cascade. In recent studies researchers have found DHT promotes TGF, and TGF causes activation of the caspase cascade and thus, hair cell death, which clinically manifests as male and female pattern baldness. What inhibits TGH safely, as opposed to the dangerous anti-cancer compounds? Proteolytic Enzymes such as a bromelain, and the anti-oxidant Curcumin are TGF inhibitors. Shiseido, a Japanese cosmetic company found that Amacha, a sugar alternative found in the orient has TGF inhibition properties. Dr. Sawaya's latest study about finasteride suggests that the best hair loss prevention would involve the blocking of caspase activation, especially caspase 3. Caspase 3 is the direct cause of programmed hair cell death (apoptosis) that originates "upstream". The first triggers may be DHT damage or oxidative (free radical) stress on the mitochondria, TGF induction

from DHT, TNF-A induction from allergic inflammation, or PKC upregulation by caspase activation. Here we can summarize the rationale behind the treatments of various pro-inflammatory mechanisms.

DHT inhibition- Finasteride, Saw Palmetto, Rivo flavin, Green Tea Extract, Copper, Peptides, and Topical Bayberry Extract.

PKC down regulation - Grape Seed Extract, Resveratrol, Vitamin E, Soy Isoflavones.

TNF-a down regulation- Curcumin, Ginkgo Biloba Extract, Stinging Nettle Extract, Green Tea Extract, Fish Oil, Borage Oil, Perilla Oil, and Topical Perilla leaf extract.

TGF down regulation- Curcumin, and topical Amacha, Aneilema keisak
