HAIR DISORDERS

ESTRONE AND HAIR

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For medical hair specialists, and also for hair transplantation surgeons, it is very important to understand the physiology of hair because this can suggest simple therapies that may really improve also the outcome of a transplant.
Hair growth is cyclical so hair does not grow indefinitely. Consequently, the hair of a 50 year-old person will never be 6 or 7 meters long. Haircuts are not part of natural processes.
How long the anagen phase lasts is determined by the amount of energy available. If the anagen phase and protein synthesis are to be maintained, the follicle needs ATP energy. This energy is released by the metabolism of glucose by way of Glycolysis and by the Pentose Phosphate Shunt. It continues to be produced during the Krebs Cycle. ATP is produced during Glycolysis, while NADPH is produced in the Pentose Phosphate Shunt.
The metabolism of glucose is activated (is turned on and off) by the adenilcyclase enzyme. When this enzyme is withheld, glycolysis stops, as do the Pentose Phosphate Shunt and the Krebs Cycle. When glucose is no longer metabolized, the energy supply is turned off; and this ends the anagen phase.
The hair cycle is controlled by sex steroids. Not by hormones circulating in the blood but by hormones that are produced within the follicle itself. Dihydrotestosterone inhibits the adenil cyclase enzyme, while estrone stimulates it. A follicle in the anagen phase always tries to reach the catagen stage and then the telogen stage. For the follicle to be able to move on to the catagen stage, 5 alpha reduction is required. The 5 alpha reductase enzyme changes testosterone into dihydroteststerone. 5 alpha reduction uses the NADPH produced in the Pentose Phosphate Shunt. It is, therefore, dependent on NADPH. Glycolysis stops at the end of the anagen phase, as does the Pentose Phosphate Shunt; and NADPH is no longer produced. There is no 5 alpha reduction, and all metabolic activity is geared to aromatization. There is an abundant production of estrone at the close of the anagen phase; and this activates the adenilcyclase enzyme. Glycolysis begins again and the cycle sets off again.
It is easy understandable that the production of dihydrotestosterone as the local shortage of estrone can cause different hair problems.
From a therapeutic point of view, a healthy hair cycle may be encouraged by topical treatment with estrone.
We treated and followed more than 4,500 women between 16 and 75 years of age. Duration of monitoring: 15 years. Follow-up: 6 to 12 months.
The galenic preparation that we used is this:
(estrone 0,02 - 0,05% zero, zero due - cinque%

(butyrate hydrocortisone 0,05% zero, zero-cinque%
(alcohol 80°
it was applied on the upper part of the scalp in a 2,5 ml dose three times a week. The absorbed estrone quantity does not appear to have had any significant side effects in our experience anyhow 50% of the patients showed an increase in hair diameter.
I show you some patients treated with local estrone.