Androgenetic Alopecia: New insights into the role of the Arrector Pili Muscle

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Beard
Forearm
Eyebrow

Chest

Individual Follicles

Groups of 3 Primary Follicles (Mejere’s Trios)

**Eyebrow**

**Chest**

**Individual Follicles**

**Groups of 3 Primary Follicles (Mejere’s Trios)**
35 year old woman presents with increased hair shedding, a reduction in the thickness of her pony tail by a third but apparently normal hair density over mid frontal scalp. Scalp biopsy shows androgenetic alopecia with a terminal to vellus hair ratio of 2:1.
Stage 1 Stage 2 Stage 3 Stage 5

Diffuse Thinning precedes Baldness in women

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Summary

New model for early AGA
- Hair growth on the scalp is different to the rest of the body
- There is a hierarchy in follicular units with primary and secondary hairs
- Secondary hairs arise in utero from a stem cell population below sebaceous gland but above bulge
- Secondary hairs miniaturize first in AGA
- Reduction in the number of hairs emerging from each pore is a sign of early AGA

Patient 102-Androcur 100mg for 10 days per month

Baseline 6 months 12 months 24 months

Another clinical scenario

Intralesional corticosteroids
Arrector pili muscle surrounds human facial vellus hair follicles

Arrector pili muscle

Method
Miniaturized hairs maintain contact with the arrector pili muscle in alopecia areata but not in androgenetic alopecia: A model for reversible miniaturization and potential for hair regrowth

Anousha Yazdabadi1, D Whiting2, NW Rufaut1, R Sinclair²,
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Summary

– Oral Minoxidil at doses of 1mg daily appears well tolerated from the cardiovascular point of view

– Concomitant use of spironolactone minimises the development of peripheral oedema and weight gain and probably has a synergistic effect

– Hypertrichosis may occur in up to 30% of patients but is generally mild, well tolerated and responds to dose reduction
Side effects

- Not observed at dose of 1 mg/d minoxidil
- Fluid retention not seen in any man
- No postural dizziness or palpitations
- No patient discontinued treatment
Summary

– Low dose oral minoxidil appears promising as a hair growth promoter

– Patients should be counselled re initial transient shedding reflecting postulated mechanism of action for the drug

– Allows dose reduction of finasteride with fewer adverse sexual side effects