LETTERS

Anti-inflammatory effect of electroacupuncture in the C3H/HeJ mouse model of alopecia areata

Accumulating experimental evidence has indicated that electroacupuncture (EA) stimulation may enhance immune function in several animal models of inflammatory diseases.1 2 However, there are few clinical data on EA stimulation for autoimmune diseases and the mechanisms underlying the therapeutic effect of EA stimulation for autoimmune diseases remain unclear.

Mast cells are the central players in allergic inflammation, and it has recently been reported that mast cells are involved in autoimmune diseases and chronic inflammation.3 4 Significant increases in mast cell degranulation were observed in these autoimmune diseases. Furthermore, severe mast cell degranulation and the accumulation of inflammatory cells around the anagen (growth phase) hair follicles were observed in autoimmune diseases such as the mouse model for alopecia areata (AA).5 This self-attack of the hair follicle cells by inflammatory cells changes the hair matrix cell phase to the telogen phase and results in hair loss.6

Figure 1  Giemsa staining of the dermis around the hair follicle in C3H/HeJ mice. (A) Giemsa staining of the dermis in mice with underdeveloped alopecia areata (AA) (0 day). (B) (a,b) No electroacupuncture (EA) stimulation control group. Extensive degranulation of mast cells around the hair follicle was observed in mice that spontaneously developed AA (a, 14 days; b, 28 days). (c,d) EA stimulation group. Before EA stimulation (c), Giemsa staining of the dermis in mice that spontaneously developed AA (14 days). After 14 days of EA stimulation (28 days, d), degranulation of mast cells around the hair follicle cells was reduced significantly in the dermis of mice in which AA developed spontaneously. Scale bar: 50 μm.
Embedded paraformaldehyde for 1 day. Paraformaldehyde was deep as 3 needles were inserted perpendicularly to the acupuncture point but not in the area of hair loss. During a 14-day period in C3H/HeJ mice in which AA was applied EA stimulation at the ST36 acupoint reduces inflammation-mediated damage in medial forebrain bundle-transected rats. Exp Neurol 2004;189:96–96.


Anti-inflammatory effect of electroacupuncture in the C3H/HeJ mouse model of alopecia areata
Tameyasu Maeda, Manabu Taniguchi, Shinsuke Matsuzaki, Kenta Shingaki, Shigeyuki Kanazawa and Shingo Miyata

Acupunct Med  published online October 27, 2012

Updated information and services can be found at: http://aim.bmj.com/content/early/2012/10/26/acupmed-2012-010240

These include:

References
This article cites 9 articles, 0 of which you can access for free at:
http://aim.bmj.com/content/early/2012/10/26/acupmed-2012-010240
#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/