Naturally occurring female hairline patterns

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Hair transplantation for hairline reconstruction is gaining popularity among women with fronto-temporal thinning, congenital high hairlines, and those who have undergone cosmetic facial procedures. While naturally occurring male hairline patterns have been described,[1-3] these parameters, when applied to women, do not achieve appropriate facial framing and a "feminine" look. Moreover, while baldness progression is an important consideration for employing receding hairline patterns in men, non-receding patterns are appropriate for use in female hairline restoration.

There is a general lack of detailed information describing natural hairline patterns in women. Most descriptions only address the position of the anterior hairline by evaluating vertical facial proportions.[4,5] In order to develop guidelines for female hairline restoration design, we studied a large population and determined the frequencies, dimensions, and location of structures found in naturally occurring female hairlines.

Methods

Three hundred and sixty female volunteers were evaluated in a hair salon setting and the following hairline characteristics were determined: presence of a widow's peak (WP), width (WP(W)) and length (WP(L))of the widows peak (Figure 1), presence of lateral mounds (LM), width of the lateral mound on the left (LLM(W)) and on the right (RLM(W)), length of the lateral mound on the left (LLM(L)) and on the right (RLM(L)) (Figure 2), number and location of hairline cowlicks, shape of temporal recessions (shape TR), and presence of miniaturized hairs within the temporal recessions. In subjects with bilateral lateral mounds, the side of the hairline with a more prominent mound was noted by visual inspection.

The following distances were measured: distance from the mid-eyebrow to the frontal midpoint or apex of the widows peak, if present (ME–FMP), distance from the frontal midpoint or apex of the widows peak to the apex of the lateral mound on the right (FMP–RLM) and on the left (FMP–LLM) (Figure 3), distance from the apex of the lateral mound to the apex of the temporal point on the right (RLM–RTP) and on the left (LLM–LTP) (Figure 4), and distance from the apex of the temporal point to a line projected vertically from the lateral canthus (RTP–LC) on the right and on the left (LTP–LC). Distance from the frontal midpoint to cowlicks (CL–FMP) were determined on the left (L.CL–FMP) and on the right (R.CL–FMP). The sum of (FMP–RLM)+(RLM–RTP) was computed, as well as the sum of (FMP–LLM)+(LLM–LTP). To determine the relationship between the distance from the frontal midpoint to the lateral mound and the total distance from the midpoint to the apex of the temporal point, the ratios (FMP–RLM):(FMP–RLM)+(RLM–LTP) and (FMP–LLM):(FMP–LLM)+(LLM–RTP) were computed.

All measurements were recorded in centimeters. Individuals who felt they had a hair loss problem or who had previous face or head surgery did not participate.

Results

The mean age of the subjects was 41 years with a range of 16-70. Means and 95% confidence intervals of measurements of the widow's peak and lateral mound dimensions are shown in Figure 1.

Figure 1. Widow's peak dimensions. Width (WP (W)) and length (WP (L)). Means and 95% confidence intervals.

Figure 2. Lateral mound dimensions. Width (LM(W)) and length (LM(L)). Means and 95% confidence intervals.

Figure 3. Distances. Distance from the mid-glabella to the frontal midpoint or apex of the widow's peak (ME–FMP); distance from the frontal midpoint to the apex of the lateral mound on the right (FMP–RLM) and on the left (FMP–LLM).