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Correspondence and Communications

Letter to the Editor: A new laser level App to improve nipple-areola complex symmetry in breast surgery

Dear Sir,

We read the paper "Improving symmetry of nipple–areola complex (NAC) position in reduction mammoplasty using laser level projection" from Holzbach et al. with great enthusiasm.[1] Aesthetic breast surgery requires a high level of precision, which is fundamental to achieve more than satisfactory results.

Symmetry of the new NAC final position is one of the most important factors affecting the perception of the breast symmetry.[2] Great attention in planning symmetrical NAC position should be paid not only in breast reductions, but also in mastopexy, with or without implants, breast asymmetry correction, tuberous breast correction, with or without implants, as well as all the other secondary revision surgery, which are more and more frequent in breast aesthetic surgery nowadays.[3,4] We fully agree that relying just on conventional anthropometric measurements of distances in preoperative planning may be inaccurate and lead to unsatisfactory results.[1,5]

We have recently introduced in our practice a new laser level App called "Vertical Check Camera" (copyright © 2015 Hiroyuki KATOH, available for IOS system) that projects two crossing green bars, one horizontal and one vertical, while pointing the patient with the phone camera.

We used this App in preoperative planning for 28 consecutive patients undergoing breast surgery (Group A), adjusting our markings along with the laser green bars projected by the app (Figure 1) to have a precise positioning of top of the new nipple-areola complexes. Same method was used to postoperatively evaluate nipple-areola complex symmetry. A control group of 24 consecutive patients (Group B) with similar characteristics to Group A, operated before introducing the app in our clinical practice, was enrolled for comparison. The height difference between the NACs, measured using the green bar visualized with the App, was used to compare results of the two groups. Postoperative evaluation was done at six-month follow-up.

Patients' demographics, medical data and type of breast surgery performed did not statistically differ between the two groups.

In Group A, six patients had bilateral breast reduction, four patients had mastopexy with implants, five patients had mastopexy without implants, eight patients had breast asymmetry correction with implants, and five patients had revision mastopexy with implants.

Postoperatively in Group A, we observed the following NAC height difference between the right and the left side:

- In bilateral breast reduction: mean 1 mm, range 0–3 mm
- In mastopexy without implants: mean 1 mm, range 0–2 mm
- In mastopexy with implants: mean 2 mm range 1–3 mm
- Breast asymmetry correction with implants: mean 1,8 mm, range 0–4 mm
- Revision mastopexy with implants: mean 1,5 mm, range 0–3 mm

Postoperatively in Group B, we observed the following NAC height difference between the right and the left side:

- In bilateral breast reduction: mean 5,4 mm, range 2–11 mm

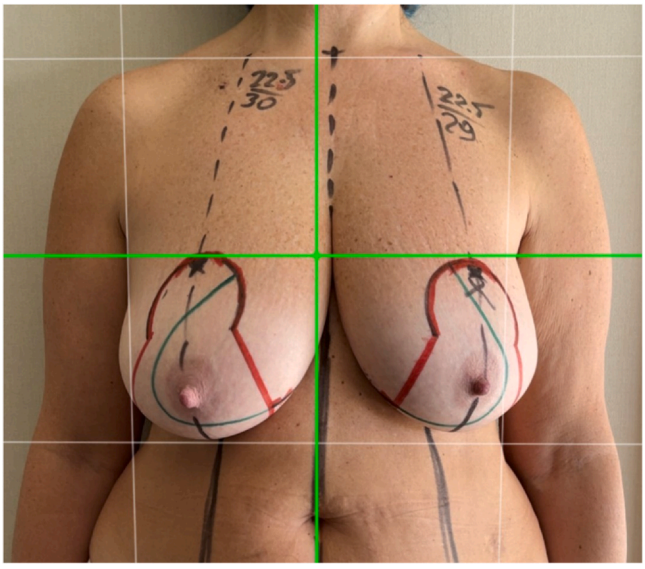

Figure 1 Preoperative markings check using the "Vertical Check Camera" App.

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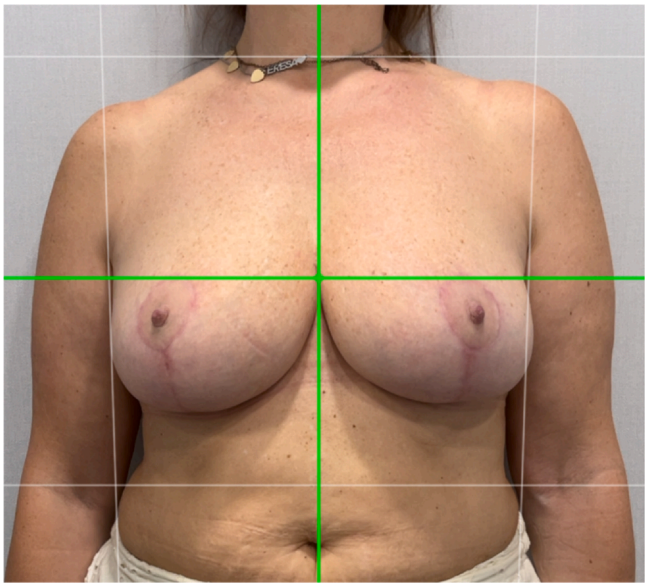

Figure 2 Six months follow up check using the "Vertical Check Camera" App.

- In mastopexy without implants: mean 4,5 mm, range 2–7 mm
- In mastopexy with implants: mean 4 mm range 1–7 mm
- Breast asymmetry correction with implants: mean 5 mm, range 2–9 mm
- Revision mastopexy with implants: mean 1,5 mm, range 0–3 mm

We found that postoperative NAC height differences between the two breasts were significantly lower in Group A (mean 1,5 ± 1,2 mm, range 0–4 mm) compared to Group B (mean 4,6 ± 2,2 mm, range 0–7) ($t(50) = 6.4298$, $p = 0.0001$).

Our experience confirmed that satisfactory results in terms of NAC symmetry might be achieved by using this laser level App for preoperative planning (Figure 2). Furthermore, we believe that the App concept is more appealing, compared to a tripod based external laser, since it is more user friendly and easily portable.

In our opinion, the indication to use the laser check should be extended, not only to other types of breast surgery but to any plastic surgery operation which requires a standing patient marking plan, such as abdominoplasty, circumferential abdominoplasty, posterior body lift, gynecomastia correction, etc.

Declaration of Competing Interest

The authors have no conflicts of interest to declare. All co-authors have seen and agree with the contents of the manuscript and there is no financial interest to report. We certify that the submission is original work and is not under review at any other publication.

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