7. The red upper lip is larger (mean, 14.40 mm), and there is a smaller nasolabial angle (92.81°) than in white women.

8. Javanese women have less chin projection than white women.

The parameters of the facial anthropometry analysis in this study showed substantial differences from facial anthropometric values in white women. These differences are important considerations when planning facial surgery in these patients.

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Absorbable Suture Compared With Nonabsorbable Suture in Upper Eyelid Blepharoplasty Closure

This study was designed as an assessment tool of patient satisfaction following upper eyelid blepharoplasty. A validated questionnaire was used to base the analysis. Specifically, our aim was to determine whether a clinically significant difference exists in quality of closure and to measure patient satisfaction, visibility of scars, and pain associated with the procedure when comparing absorbable suture with nonabsorbable suture in the closure of an upper eyelid blepharoplasty. Our primary goal was to objectively assess patient satisfaction following upper eyelid blepharoplasty. A secondary goal was to assess patient-perceived differences in terms of pain and visibility of scars between absorbable and nonabsorbable suture closure.

Traditionally, the success of a particular surgical procedure, even an aesthetic one, has been measured mostly by subjectively perceived outcome and to some degree by the frequency of complications. However, because complications occur much less frequently after upper eyelid blepharoplasty, complacency has prevailed with regard to its existing techniques. It has been well documented that the most common complication of upper eyelid blepharoplasty is milia. Milia have been shown by several study groups, including Rees and Guy, to occur with similar frequency in both the subcuticular polypropylene and the running catgut closures. Therefore, we undertook the study, not with the intent of examining rates of complications, but to objectively assess patient satisfaction with regard to the overall quality of closure, specifically addressing the resultant scar, patient associated with the procedure, and overall patient satisfaction.

Several well-documented transient sequelae are known with regard to both sutures studied in this article. Joshi et al reported that absorbable sutures can cause clinically significant inflammation and erythema during the process of degradation; however, because removal is not required, they are associated with less pain. Nonabsorbable sutures have the advantage of less tissue reactivity but often create considerable discomfort in patients on removal. Postoperative discomfort in blepharoplasty, especially during suture removal, can occur and has been previously reported.

Methods. A prospective study was performed in the Division of Otolaryngology–Head and Neck Surgery at a tertiary care hospital in Halifax, Nova Scotia, Canada. The study examined patients undergoing upper eyelid blepharoplasty by a single staff surgeon (S.M.T.). Closure of the incision was performed using absorbable sutures (6.0 fast-absorbing gut) in one eyelid and nonabsorbable sutures (6.0 nylon) in the opposite eyelid. Comparisons were performed by evaluating patient satisfaction, visibility of scars, and pain using a previously validated questionnaire, the Blepharoplasty Outcome Evaluation (BOE). The questionnaire was completed by the patient at 1 year or more after surgery. Patients who insisted on having identical suture in both eyelids were included in separate arms of the study as outlined in Figure 1.
Under loupe magnification, a surgical marking pen was used to mark the supratarsal crease bilaterally, and a temporal flare was placed in a suitable crow’s foot (Figure 2). The “pinch test” was then used to estimate the amount of redundant upper eyelid skin. At this point, an elliptical incision was marked. Lidocaine hydrochloride, 2%, and 1:200 000 parts adrenaline were infiltrated into each upper eyelid. A No. 15 blade was then used to incise through skin and subcutaneous tissue. The redundant skin and orbicularis oculi muscle were then removed en bloc. The orbital septum was then opened, and an appropriate amount of orbital fat was removed from the central and medial compartments. Bipolar cautery was used to achieve meticulous hemostasis. A running 6-0 fast-absorbing gut was used to close the first upper eyelid. An identical procedure was performed on the opposite eye using 6-0 nylon for the closure. Patients who insisted on having only 1 type of suture for both eyes had either nylon or fast-absorbing catgut in bilateral closures (Figure 3).

The BOE is a brief questionnaire that provides the facial plastic surgeon with quantitative tools to evaluate otherwise subjective and purely qualitative outcomes and is recommended for use in prospective studies. It consists of 6 questions capturing 3 quality-of-life (QOL) domains: physical, mental/emotional, and social.

1. How well do you like the appearance of your eyes and eyelids?
2. Do you feel the appearance of your eyes makes you look tired?
3. How much do you feel your friends and loved ones like the appearance of your eyes?
4. Do you feel the current appearance of your eyes limits your social or professional activities?
5. Do you feel the current appearance of your eyes is the best that it can be?
6. Would you like to surgically alter the appearance of your eyes?

Inclusion of these 3 domains is the recommended methodology in QOL literature. Independent validity of the BOE by Alsarraf et al showed that it had excellent reliability, consistency, and validity scores; a test-retest reliability of 0.75 (P < .001) (Pearson correlation coefficients); and an internal consistency score of 0.84 (Cronbach α). In addition, responsiveness to change was statistically significant at 50.7 (P < .001). Each question was rated on a 5-point scale from 0 (not at all), 1 (somewhat), 2 (moderately), 3 (very much), or 4 (completely). In addition, each eye was rated separately.

A second set of questions presented as a visual analog scale was used to assess visibility of the surgical scar and discomfort associated with the experience. This was performed on a scale of 1 (none) to 10 (severe) for each eye independently. For each question, the average score of the right eye and left eye was calculated. The 6 averages were then further averaged to give an overall satisfaction score. The calculation of the difference was performed with a positive difference favoring absorbable sutures and a negative difference favoring nylon sutures. A right-sided 95% confidence interval (CI) for the difference was calculated for each underlying difference using a normal approximation. (power and sample size calculator).

**Results.** The Table provides a summary of patients with the same suture in both eyelids. It shows that no suture type was notably superior to the other using a 2-sample, 2-sided, t test at the P = .05 level of significance. This may be the result of a genuine absence of a difference or the fact that the study is somewhat underpowered. To investigate whether absorbable sutures are clinically inferior to nylon sutures, we examined the right-sided 95% CI, for the difference lies entirely to the right of the region of clinical inferiority. If it does, we may conclude that absorbable sutures are not clinically inferior to nylon sutures.

In regard to question 1, we do find that absorbable sutures are not clinically inferior to nylon sutures because the CI is entirely to the right of zero (P = .06). In regard to the other measures, it depends on where the boundary between inferiority and noninferiority is set. The boundary will be somewhere to the left of 0 so that values that are negative but very small are regarded as not clinically meaningful. Therefore, for questions 2 to 6, neither suture was deemed to be desirable compared with the other. When we look at the overall satisfaction score, we see that once again neither suture is regarded as pref-
Scaccia et al\(^4\) compared the results of subcuticular closure with 5-0 polypropylene suture (Prolene) with those closed with a running 6-0 fast-absorbing catgut in upper eyelid blepharoplasty. At 1 month, physician assessment showed a preference for the results obtained with the fast-absorbing suture: subjective ratings averaged 9.5 compared with 8.6 for the polypropylene suture. Self-assessment by patients paralleled this result. The postoperative discomfort score averaged 8.6 for polypropylene and 9.0 for catgut, suggesting slightly less discomfort with the fast-absorbing suture.\(^4\) Scaccia et al also reported that both the patients and the senior author believed that the final appearance of the scar associated with the running catgut was, in most cases, slightly superior.\(^4\)

Joshi et al\(^3\) observed considerable differences between suture material and techniques with respect to milia formation, erythema, and scarring. They found that a fast-absorbing catgut suture along with 2 interrupted polypropylene sutures yielded the best results and the lowest rates of complications. Guyuron and Vaughn\(^7\) reported that notable discomfort experienced by patients at the time of suture removal from the lateral canthal area following blepharoplasty prompted them to use absorbable suture material on a trial basis. Successful use of this suture material in repairs such as alar bases and eyelids then encouraged them to use it in almost every situation. In fact, the study by Guyuron and Vaughn\(^7\) showed a somewhat higher incidence of stitch marks using polypropylene than catgut, although the difference was not statistically significant (\(P < .10\)).

However, patient 6 in the multisuture arm of the study felt that the postoperative erythema was greater on the side with the fast-absorbing catgut and therefore marked her survey accordingly. Overall, though, she was pleased with her result and felt that the procedure was a success.

In conclusion, 6-0 fast-absorbing catgut is an excellent alternative to the traditional nonabsorbable suture used for closure in upper eyelid blepharoplasty. We found no clinical difference between absorbable and nonabsorbable suture with regard to scar quality, pain, and overall satisfaction. For this reason, at our institution we have adopted the use of fast-absorbing catgut for the closure of all upper eyelid blepharoplasties.

**Table. Patients With Either Nylon or Absorbable Suture**

<table>
<thead>
<tr>
<th>Question</th>
<th>Observed Mean Difference</th>
<th>Favored Suture</th>
<th>2-Sided (P) Value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>.61</td>
<td>Absorbable</td>
<td>.06</td>
<td>.08 to (\infty)</td>
</tr>
<tr>
<td>Q2</td>
<td>-.05</td>
<td>Nylon</td>
<td>NS</td>
<td>-.40 to (\infty)</td>
</tr>
<tr>
<td>Q3</td>
<td>-.18</td>
<td>Nylon</td>
<td>NS</td>
<td>-.65 to (\infty)</td>
</tr>
<tr>
<td>Q4</td>
<td>-.14</td>
<td>Nylon</td>
<td>NS</td>
<td>-.31 to (\infty)</td>
</tr>
<tr>
<td>Q5</td>
<td>.18</td>
<td>Absorbable</td>
<td>NS</td>
<td>-.49 to (\infty)</td>
</tr>
<tr>
<td>Q6</td>
<td>.44</td>
<td>Absorbable</td>
<td>NS</td>
<td>-.55 to (\infty)</td>
</tr>
<tr>
<td>OSS</td>
<td>.14</td>
<td>Absorbable</td>
<td>NS</td>
<td>-.19 to (\infty)</td>
</tr>
<tr>
<td>Scar severity</td>
<td>.03</td>
<td>Absorbable</td>
<td>NS</td>
<td>-.99 to (\infty)</td>
</tr>
<tr>
<td>Pain</td>
<td>.80</td>
<td>Absorbable</td>
<td>NS</td>
<td>-.39 to (\infty)</td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; NS, nonsignificant; OSS, overall satisfaction score.
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How far you go in life depends on your being tender with the young, compassionate with the aged, sympathetic with the striving, and tolerant of the weak and the strong. Because someday in life you will have been all of these.
—George Washington Carver.