Journal of Plastic, Reconstructive & Aesthetic Surgery (2017) 70, 96—103

JPRAS
An International Journal of Surgical Reconstruction
www.JPRASurg.com

The orbicularis oculi muscle resection technique for medial epicanthoplasty: A retrospective review of surgical outcomes in 47 Chinese patients

Hai-Peng Liu [a], Yan-ying Zhao [b], Bing Li [a], Jun Qi [a], Duo Zhang [a,*]

[a] *Department of Plastic and Reconstructive Surgery, The First Bethune Hospital of Jilin University, Chang Chun 130021, PR China*
[b] *Department of Gastroenterology, The Fourth Hospital of Jilin University, Chang Chun 130021, PR China*

Received 28 May 2016; accepted 5 September 2016

KEYWORDS
Medial epicanthoplasty;
Orbicularis oculi muscle;
Epicanthal fold;
Medial canthus

Summary *Background:* Epicanthal folds and single eyelids are considered characteristic East Asian traits. This study describes a new approach to medial epicanthoplasty based on an orbicularis oculi muscle resection technique and reports the surgical outcomes in Chinese patients.
Methods: The study presents an uncontrolled retrospective case series review of 47 Chinese patients who underwent medial epicanthoplasty with double eyelid surgery from December 2010 to December 2014 by traditional medial epicanthoplasty (Group I, $n = 23$) or medial epicanthoplasty using the orbicularis oculi muscle resection technique (Group II, $n = 24$). Horizontal lid fissure length (HLFL), inner intercanthal distance (IICD), and the HLFL/IICD ratio were measured preoperatively and at 6-month follow-up. Within group and between group comparisons were performed using paired *t*-test, independent *t*-test, and Chi-square test. Pre- and postoperative photographic images were compared.
Results: In Group I, mean IICD decreased from 38.8 ± 1.06 mm preoperatively to 33.7 ± 0.93 mm postoperatively, and mean HLFL increased from 24.9 ± 1.27 to 29.6 ± 0.63 mm ($p < 0.01$). The HLFL/IICD ratio increased to 0.237 ± 0.05 ($p < 0.0001$). In Group II, mean IICD decreased from 38.7 ± 1.30 mm preoperatively to 32.2 ± 1.13 mm postoperatively, and mean HLFL increased from 24.5 ± 1.72 to 30.6 ± 1.08 mm ($p < 0.01$). The HLFL/IICD ratio increased to 0.315 ± 0.047 ($p < 0.0001$). The improvement in the HLFL/IICD ratio was significantly higher in Group II than in Group I ($p < 0.001$). All patients obtained satisfactory results with no complications.

* Corresponding author. Department of Plastic and Reconstructive Surgery, The First Bethune Hospital of Jilin University, No.71, XinMin Street, Chang chun 130021, PR China. Fax: +86 0431 88786165.
E-mail address: zhangduo2002@hotmail.com (D. Zhang).

http://dx.doi.org/10.1016/j.bjps.2016.09.002
1748-6815/© 2016 British Association of Plastic, Reconstructive and Aesthetic Surgeons. Published by Elsevier Ltd. All rights reserved.

Conclusions: Medial epicanthoplasty using the orbicularis oculi muscle resection technique is safe and effective for epicanthal fold correction in Chinese patients.
© 2016 British Association of Plastic, Reconstructive and Aesthetic Surgeons. Published by Elsevier Ltd. All rights reserved.

Introduction

The presence of epicanthal folds and the absence of supratarsal folds are unique features of Asian eyelids. An epicanthal fold usually occurs in both eyelids, and the skin around the fold covers the medial canthal (inner core) area in a round formation. Epicanthal folds and single eyelids are considered characteristic East Asian traits. The incidence of the epicanthal fold is estimated at 40—90% in the Asian population, but is only 2—5% among non-Asians in the general population.[1,3,4]

Epicanthal folds result in a round-looking inner eye and make the palpebral fissure narrow. They also cause a short upper eyelash because of partial coverage by the upper eyelid. As Asians desire wide, open, and larger-looking eyes, creation of a supratarsal fold (double eyelid plasty) and medial epicanthoplasty has become the most common cosmetic surgery for them. A double eyelid plasty without correction of the epicanthus usually creates a tight skin curtain that makes the palpebral folds short and narrow and the eyelid fissure appear round and unnatural.[5,6]

Although the cause of epicanthal folds is not well understood, epicanthoplasty aims to mobilize the epicanthal tissue to create flexibility within the epicanthal skin and correct the excessive development of skin at the root of the nose, the excess of orbicularis muscle and fibrofatty tissues beneath the fold, and abnormal tension in the skin resulting from force of the orbicularis muscle.[7]

Although epicanthal fold is not a pathological condition, several procedures that aim to release, or partially release, the epicanthal fold have been proposed. Epicanthus correction surgery was introduced by von Ammon. Since then, modified Z-plasty,[5,8—10] Mustarde's four-flap method,[11,12] the modified Y-V advancement flap,[13] V-W plasty,[14] and W-plasty[15] have been used to correct epicanthal folds. Some of these procedures focus on releasing the tension on the medial canthal or excision of the redundant epicanthal skin. However, these procedures are associated with complications such as recurrence, undercorrection, prominent scarring of the medial canthal and nasal area, and limited application.

Studies have shown that the formation of epicanthal folds has a role relationship with the orbicularis muscle of the medial epicanthal. Lee et al.[6] suggested that the insertion of superficial fibers of the medial canthal ligament (MCL) and orbicularis oculi muscle running through the fold was the primary cause of the Asian epicanthal fold. Song et al.[16] also considered that the medial epicanthus was caused by malposition of the orbicularis oculi muscle fibers.

Unfortunately, studies reporting objective evaluations of outcomes following medial epicanthoplasty using orbicularis oculi muscle resection in Chinese patients are limited. To the best of the authors' knowledge, this study is the first of its kind to report the outcomes of medial epicanthoplasty using this technique. We describe a new approach to medial epicanthoplasty based on an orbicularis oculi muscle resection technique and discuss the surgical outcomes in 47 Chinese patients.

Materials and methods

Patients

This study was an uncontrolled retrospective case series review of 47 Chinese patients who underwent medial epicanthoplasty with double eyelid surgery at the Plastic Surgery Department of The First Bethune Hospital of Jilin University in China from December 2010 to December 2014. Of them, 23 patients received traditional medial epicanthoplasty from December 2010 to January 2013 (Group I), and 24 patients received traditional medial epicanthoplasty with the addition of the orbicularis oculi muscle resection technique from February 2013 to December 2014 (Group II) (Table 1). The surgeries were conducted by a single surgeon (ZD). In these series of patients, all of them received traditional medial epicanthoplasty, except that we later modified the traditional medial epicanthoplasty using the orbicularis oculi muscle resection technique in Group II. In fact, the patients in both groups have undergone the same surgical technique, except for the orbicularis oculi muscle resection step in Group II. All the patients provided written informed consent before inclusion in the study. This study was authorized by the ethics committee of The First Bethune Hospital of Jilin University.

Surgical technique (traditional medial epicanthoplasty)

Flap design

Following sterile preparation of the face, markings were made with the patient in sitting position. First, a small dot, representing Point A, was placed on the surface of the epicanthal fold with the eyes in primary gaze; this was the

Table 1 Demographics of the study population.

	Number of patients	Age of patients Average (range in years)	Follow-up time Average (range in months)
Group I	23	21.3 (17—29)	13.1 (6—19)
Group II	24	20.7 (18—27)	15.4 (6—24)

Download English Version:

https://daneshyari.com/en/article/5715399

Download Persian Version:

https://daneshyari.com/article/5715399

Daneshyari.com