

# 睑缘瓦合任意皮瓣联合皮片移植治疗烧伤后瘢痕睑外翻疗效观察

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**[摘要]目的:** 观察睑缘瓦合任意皮瓣联合皮片移植在烧伤后早期瘢痕性睑外翻的临床应用。**方法:** 选取2020年11月-2023年5月重庆市第七人民医院烧伤整形美容外科收治的烧伤后瘢痕性睑外翻8例(12眼), 其中男6例, 女2例, 年龄35~68岁, 平均年龄52岁。所有患者均伴有眼睑不同程度的睑外翻, 眼睑、眶周瘢痕仍处于增生期内, 3眼系单纯睑植皮术后睑外翻复发, 所有患眼均进行瘢痕松解后行皮片移植、上下眼睑内、外1/3眼睑皮瓣瓦合, 术后3~6个月行固定离断。**结果:** 8例患者(12眼)术后随访6个月~1年, 眼睑外翻完全纠正, 形态功能恢复良好。**结论:** 睑缘瓦合任意皮瓣联合皮片移植能较好的改善烧伤后瘢痕性睑外翻, 预防复发, 患者满意度高。

**[关键词]** 眼睑外翻; 瘢痕; 瓦合皮瓣; 皮片移植

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## Observation on the Therapeutic Effect of Over and Out Arbitrary Flap Adhesion Combined with Free Skin Graft Transplantation in the Treatment of Scar Ectropion after Burns

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**Abstract: Objective** To observe the clinical application of over and out arbitrary flap combined with free skin graft transplantation in the early scar ectropion of the eyelid after burn. **Methods** Eight cases (12 eyes) of post-burn scar ectropion of the eyelid admitted to the Department of Burn, Plastic and Aesthetic Surgery of Chongqing Seventh People's Hospital from November 2020 to May 2023 were selected, including 6 males and 2 females, aged 35 to 68 years, with an average age of 52 years. All patients had varying degrees of ectropion of the eyelid, and the eyelid and periorbital scars were still in the proliferative stage. Three eyes had recurrence of ectropion after simple eyelid skin grafting. All affected eyes underwent scar release and free skin graft transplantation, as well as upper and lower eyelid inner and outer 1/3 eyelid flap bonding and adhesion surgery. Adhesion detachment was performed 3 to 6 months after the operation. **Results** Eight patients (12 eyes) were followed up for 6 months to 1 year after the operation. The ectropion of the eyelid was completely corrected, and the morphological and functional recovery was good. **Conclusion** The transplantation of over and out arbitrary flap combined with free skin grafts can effectively improve cicatricial ectropion after burns, prevent recurrence, and has a high patient satisfaction rate.

**Key words:** ectropion; scar; eyelid adhesion surgery; skin graft

头面部烧伤在生活烧伤较为常见, 尤其深度烧伤常常导致较为严重的畸形, 且常伴有功能障碍<sup>[1]</sup>。由于眼睑皮肤薄、支撑力弱, 烧伤早期即使发生轻微的瘢痕牵拉与挛缩, 也可导致睑球分离, 进而引发眼干、泪溢、结膜炎等症状。严重者可出现结膜脱垂、角膜炎、角膜溃疡及视力下降, 严重影响患者生活质量。所以一旦患者出现了瘢痕性的睑外翻, 应尽早治疗。眼睑烧伤瘢痕性睑外翻患者在瘢痕增生期仅行瘢痕松解游离皮片移植, 睑外翻复发可能性大。基于此, 本研究选取2020年11月-2023年5月笔者科室收治的8例(12眼)瘢痕性睑外翻患者, 行上下睑缘局部皮瓣瓦合联合皮片移植, 术后3~6个月瘢痕稳定后行睑固定离断, 现报道如下。

### 1 资料和方法

1.1 一般资料: 选取笔者科室2020年11月-2023年6月收治

的8例(12眼)瘢痕性睑外翻患者, 其中男6例、女2例, 年龄35~68岁, 平均年龄52岁, 面部及眼周烧伤后1~3个月。患者主要临床症状表现为上睑或下睑均有烧伤后瘢痕性睑外翻, 眼睑或眼睑周围瘢痕处于增生期。排除因面瘫、重症肌无力、甲状腺功能异常、肿瘤以及先天导致的眼睑外翻患者。所有病例(12眼)均表现为睑球分离, 患者具有眼干、泪溢, 结膜炎等症状, 其中1例患者(1眼)出现上睑结膜脱垂, 2例患者(3眼)系下睑单纯植皮术后睑外翻复发。本研究经笔者医院伦理委员会审批通过且患者对本研究内容知情同意。

#### 1.2 切口设计与手术操作

1.2.1 眼睑瘢痕松解植皮: 下睑缘设计2 mm平行于睑缘手术切口线, 并根据切开松解瘢痕后睑板是否全复位, 调整切口线长度, 必要时切开线超过外眦。0.5%利多卡因行瘢痕

下方、眼轮匝肌表面局部浸润组织，麻醉满意后，于轮匝肌表面松解瘢痕，将瘢痕组织瓣尽量松解，睑板复位满意后，根据创面大小于耳后、上臂或锁骨上缘切同等大小的皮片，移植于眼睑松解后创面。6-0尼龙线缝合固定，打包反包扎。供皮区充分皮下减张后逐层缝合。

1.2.2 睑缘局部皮瓣瓦合：睑缘局部浸润麻醉，以上下眼睑睑缘内中1/3、中外1/3处各做2 mm×1 mm的任意皮瓣，于灰线下、睑板上掀起皮瓣，叠瓦合后7-0尼龙线缝合固定一针，供瓣区不缝合（见图1）。根据患者睑外翻情况，若患者仅出现眼睑内侧外翻，可做单做中内1/3处睑缘任意皮瓣瓦合固定；若患者仅出现眼睑外侧外翻，可单做中外1/3处的皮瓣瓦合；若全眼睑均外翻，需内外侧均做。12只眼中，8只进行了内外双侧固定，4只仅行了外侧的固定。术后患眼滴地塞米松妥布霉素眼液1周。术后3~6个月瘢痕稳定后行眼睑固定肉柱离断、去除。



图1 瓦合皮瓣示意图

## 2 结果

8例患者（12眼）手术移植皮片成活良好，眼睑固定离断后，睑外翻均矫正良好。2例患者（2眼）部未拆线前出现部分瓦合皮瓣固定脱落，1只予以了再次缝合，1只因行了内外均固定，仅内侧脱落未予处理。所有患者睑外翻矫正良好，术后无复发，均对术后眼睑形态外观满意，无上睑下垂，无视力减退。典型病例见图2~4。



注：患者双侧上下眼睑瘢痕性睑外翻，行右侧上下眼睑、左侧上眼睑瘢痕松解植皮，双侧外1/3改良上下眼睑固定术，术后3个月患者睑外翻纠正，离断肉柱前，眼睑闭合正常，术后1年双侧上下眼睑形态良好，无睑外翻复发。A. 术前；B. 术后3个月；C. 术后1年

图2 典型病例1 手术前后

## 3 讨论

眼眶周围烧伤常导致局部软组织收缩、变形，尤以下睑瘢痕所致的睑外翻最为常见，可引起眼睑功能障碍，若不及时处理，可能进一步发展为角膜瘢痕或穿孔，最终导致视力丧失。因此，早期采取保护措施、及时矫正睑外翻



注：患者双侧下眼睑及右侧上睑瘢痕性睑外翻，行右侧上下眼睑、左侧下眼睑瘢痕松解植皮，右侧内外1/3、左侧外1/3改良上下眼睑固定术。术后3个月患者睑外翻纠正，离断肉柱前，眼睑闭合正常。术后1年双侧上下眼睑形态良好。A. 术前；B. 术后3个月；C. 术后1年

图3 典型病例2 手术前后



注：患者双侧下眼睑瘢痕性眼单纯睑外翻植皮术后1个月仍出现外翻，行双侧下眼睑瘢痕松解植皮，双侧内外1/3、左侧外1/3改良上下眼睑固定术。术后左侧中内1/3固定脱落，未予处理。左侧术后3个月患者睑外翻纠正，离断肉柱前，眼睑闭合正常；术后1年双侧上下眼睑形态良好。A. 术前；B. 术后3个月；C. 术后1年

图4 典型病例3 手术前后

对保护视功能至关重要<sup>[2-3]</sup>。然而，眼周软组织的收缩与变形可持续3~6个月甚至更长时间，早期手术失败风险较高，通常需待瘢痕稳定后再行手术治疗。但由于下睑外翻易引发严重眼部并发症，临床仍倾向于在条件允许时尽早手术干预。

眼睑外翻手术方法有多种，包括瘢痕松解切除后采取植皮或局部皮瓣、耳后游离皮瓣移植术等<sup>[4-8]</sup>。烧伤导致的眼睑外翻，大部分是因为眼睑瘢痕皮肤挛缩导致的睑板前层皮肤的缺损，临床通常采用瘢痕松解植皮手术，术后外观良好。但单纯皮片移植术后，移植皮片的挛缩、瘢痕的持续挛缩牵拉，术后睑外翻复发概率大，可达到39%<sup>[9]</sup>，有报道达到44%<sup>[10]</sup>。若采取皮瓣移植的方式，移植皮瓣挛缩程度小，术后眼睑外翻复发的概率小。但是，临近部位的面部烧伤患者皮眼周亦受累及缺乏皮瓣供区，较多选择远位皮瓣。但是转移皮瓣组织术后局部眼睑臃肿、外观欠佳。利用眼睑眼轮匝肌皮瓣转位到对侧眼睑，具有色泽相近，皮瓣薄、回缩小等优点，眼外翻纠正效果好<sup>[11]</sup>。

传统上在植皮或皮瓣移植后为避免术后下睑外翻复发，手术常联合对抗眼睑外翻手术，常规方法如下。①加强横行力量收紧睑板对抗眼睑外翻：手术主要以加强收紧睑板条成形术，包括睑板楔形切除收紧、埋线锚定技术、睑板内外毗成形术<sup>[12-15]</sup>。此类不能为烧伤后眼睑提供睑板纵向持久的对抗外翻的力量，后期容易出现再次眼睑外翻。②加强纵向力量悬吊并维持睑板自身形态：frost缝合术<sup>[16]</sup>、睑缘缝合固定闭合术、眼轮匝肌瓣隧道固定术<sup>[17]</sup>。frost缝合术是一种临时性的睑缘闭合术，利用缝线从灰线

穿过睑板,用胶带固定或缝合在额部的方式,将下眼睑板悬吊至正常位置,手术操作简单,但是维持时间短,通常需要术后7~12 d拆除缝线。有报道,全身麻醉情况下采用frost缝合固定4周,眼睑外翻并取得不错的效果<sup>[18]</sup>。睑缘缝合固定术是一种临时缝合或制造创面缝合固定的手术方式。以上两种术式适用眼睑形态的短期维持,但可能出现角膜损伤,术后患者术后视野小,甚至双眼处于闭眼状态,不宜在患者清醒的情况下长时间持续固定。眼轮匝肌肉瓣隧道固定术维持时间长,与本研究任意皮瓣原理类似,但是设计固定部位位于睑裂中央,有明显遮挡瞳孔,影响视野。

眼周烧伤瘢痕挛缩导致的睑外翻患者,本研究设计上下眼睑缘内外1/3的2 mm×1 mm的任意皮瓣,再进行上下眼睑瓦合固定。可根据患者外翻的范围和程度,可行单侧或内外双侧的皮瓣瓦合固定。这种方法的优点有:①术后患者睑裂仍可有一定高度,瓦合固定位于巩膜缘,视野范围减少不明显,随着上下睑瘢痕挛缩增加牵拉眼睑,固定肉柱变细变长,眼裂高度逐渐增加,视野范围逐渐增加。②上下睑形态能一直维持稳定。③对单纯性下睑或上睑外翻及上下睑同时外翻均有效。④损伤操作小,无角膜损伤。⑤可单独行眼睑任意皮瓣瓦合固定,防止睑外翻加重,适用于轻度眼睑外翻患者。

操作时注意:①手术操作较为精细,紧贴睑板前掀起小皮瓣;②应尽量上下睑皮瓣面积最大瓦合,增加稳固性;③皮瓣的供瓣区若无明显活动出血不需要缝合;④为了减少对瓦合固定手术影响,可在眼睑植皮术后1周,移植皮片成活后进行;⑤根据眼睑部位外翻程度,灵活选择固定部位,眼睑内侧外翻重可以选择眼睑中内1/3处固定,眼睑外侧外翻重可以选择中外1/3处固定,全眼睑外翻重可以上2处均固定。

眼睑固定瘢痕松解植皮时亦需要注意以下几点:①做眼睑瘢痕松解应在眼睑瘢痕皮下松解,将瘢痕皮瓣尽量推向眶缘,复位睑板,不要破坏眼睑的原有结构,在眼轮匝肌表面移植皮片<sup>[19]</sup>。②注意内外眦角的瘢痕松解是否到位,确保松解复位睑缘与眼球的紧密接触。③选择合适的供区计适当的移植厚度,移植皮片多选择耳后、锁骨上、上臂等全厚皮片,皮片大小可稍大于创面。

综上,瓦合任意皮瓣联合游离皮片移植能较好地改善烧伤后瘢痕性睑外翻,预防复发,患者满意度高。本研究纳入的病例数相对较少,这可能影响结论的外推性。后续需要开展多中心、大样本的前瞻性研究,以进一步验证本研究的结论,并提供更高级别的循证医学证据。

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## 基于内眦皮肤脊延伸线的个性化重睑设计策略在东亚人群中的应用: 一种创新的重睑设计方法

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**[摘要]目的:** 探讨基于内眦皮肤脊解剖结构的个性化重睑设计策略在东亚人群中的应用价值。**方法:** 选取2023年4月-2024年4月新疆维吾尔自治区人民医院医学美容中心收治的110例(220眼)接受重睑成形术的就医者, 应用内眦皮肤脊延伸线定位法设计重睑切口, 术后随访3~11个月, 采用Hiraga美学评价标准评估效果。**结果:** 术后重睑线形态自然流畅, 切口愈合良好, 无睑外翻、上睑退缩及闭合不全等并发症。满意度评估显示完全满意99例(90%), 基本满意11例(10%)。**结论:** 基于内眦皮肤脊解剖标志的个性化设计方法, 可有效协调内眦赘皮与重睑线的形态关系, 实现符合东亚人群解剖特征的生理性重睑。

**[关键词]** 重睑成形术; 内眦皮肤脊; 个性化设计; 内眦赘皮; 眼睑解剖

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## Application of Personalized Double Eyelid Design Strategy Based on the Extension Line of the Canthal Skin Ridge in East Asian Populations: An Innovative Approach

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**Abstract: Objective** To explore the application value of a personalized double-eyelid design strategy based on the anatomical structure of the medial canthal skin ridge in East Asian populations. **Methods** A total of 110 patients (220 eyes) who underwent double eyelid plasty and were admitted to the Medical Aesthetics Center of Xinjiang Uygur Autonomous Region People's Hospital from April 2023 to April 2024 were selected. The double-eyelid incision was designed using the medial canthal skin ridge extension line localization method. Patients were followed up for 3 to 11 months postoperatively, and the outcomes were evaluated using the Hiraga aesthetic evaluation criteria. **Results** Postoperatively, the double-eyelid line appeared natural and smooth, with good wound healing. No complications such as ectropion, upper eyelid retraction, or incomplete eyelid closure were observed. Satisfaction assessment showed that 99 patients (90%) were completely satisfied and 11 patients (10%) were basically satisfied. **Conclusion** The personalized design method based on the anatomical landmarks of the medial canthal skin ridge can effectively coordinate the morphological relationship between epicanthal folds and the double-eyelid line, achieving a physiological double eyelid that conforms to the anatomical characteristics of East Asian populations.

**Key words:** double-eyelidplasty; medial canthal skin ridge; personalized design; epicanthal fold; eyelid anatomy

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