

短篇论著

唇黏膜移植修复睑缘缺损术后眼表状况的研究

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[摘要] **目的**·分析唇黏膜移植重建睑缘术后的眼表及泪膜状态。**方法**·选择2017年11月至2019年12月在上海交通大学医学院附属第九人民医院眼科就诊的15例睑缘缺损患者为研究对象。均行唇黏膜移植术重建上睑缘, 术后6~8周行眼表综合分析仪检查, 包括: 泪河高度 (tear meniscus height, TMH)、泪膜破裂时间 (tear film breakup time, BUT) 和泪液分泌试验。术后复查时测量双眼睑裂高度 (palpebral fissure height, PFH) 和提上睑肌功能 (levator function, LF)。术眼相关数据与自身健眼对应数据比较。患者在术后6~8周时填写眼表疾病指数 (Ocular Surface Disease Index, OSDI) 量表。**结果**·健眼 TMH (0.24 ± 0.07) mm, 术眼 TMH (0.23 ± 0.11) mm, 差异无统计学意义 ($P=0.316$); 健眼 BUT (10.75 ± 2.31) s, 术眼 BUT (7.75 ± 2.05) s, 差异无统计学意义 ($P=0.065$); 泪液分泌试验中健眼 (10.20 ± 1.96) mm/5 min, 患眼 (9.33 ± 2.04) mm/5 min, 差异无统计学意义 ($P=0.376$); 健眼 PFH (10.16 ± 1.18) mm, 患眼 PFH (10.11 ± 2.11) mm, 差异无统计学意义 ($P=0.761$); 健眼 LF (9.59 ± 0.93) mm, 患眼 LF (9.03 ± 1.02) mm, 差异无统计学意义 ($P=0.552$)。患者 OSDI 量表平均得分为 26.44 ± 3.88 。**结论**·唇黏膜移植重建睑缘术后6~8周可获得较为满意的泪膜稳定性和双眼对称度; OSDI 量表提示患者术后6~8周时可能存在干眼。

[关键词] 睑缘缺损; 唇黏膜移植; 睑缘重建; 眼表

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Evaluation of ocular surface following lip mucosa graft for palpebral margin defect

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[Abstract] **Objective**·To analyze the condition of ocular surface and tear film after reconstruction of palpebral margin with lip mucosa graft. **Methods**·Fifteen patients with palpebral margin defect who were treated in the Department of Ophthalmology, Shanghai Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine from November 2017 to December 2019 were selected. All patients underwent the lip mucosa graft for palpebral margin reconstruction. A series of ocular surface examination, some ophthalmological physical examination and a questionnaire were prepared for each patient 6~8 weeks after surgery. The ocular surface examination was constituted of tear meniscus height (TMH), tear break-up time (BUT) and Schirmer test. The ophthalmological physical examination included affected palpebral fissure height (PFH) and levator function (LF). Finally, Ocular Surface Disease Index (OSDI) was used as a questionnaire. **Results**·There was no significant difference in TMH between fellow eyes and operated eyes [(0.24±0.07) mm vs (0.23±0.11) mm, $P=0.316$]. There was no significant difference in BUT between fellow eyes and operated eyes [(10.75±2.31) s vs (7.75±2.05) s, $P=0.065$]. There was no significant difference in the result of Schirmer text between fellow eyes and operated eyes [(10.20±1.96) mm/5 min vs (9.33±2.04) mm/5 min, $P=0.376$]. There was no significant difference in PFH between fellow eyes and operated eyes [(10.16±1.18) mm vs (10.11±2.11) mm, $P=0.761$]. There was no significant difference in LF between fellow eyes and operated eyes [(9.59±0.93) mm vs (9.03±1.02) mm, $P=0.552$]. The score of OSDI was 26.44±3.88 in average. **Conclusion**·The lip mucosa graft for treating palpebral margin defects gives a satisfactory result in tear film stability and binocular symmetry. Patients may have dry eyes according to the score of OSDI 6~8 weeks after surgery.

[Key words] palpebral margin defect; lip mucosa graft; palpebral margin reconstruction; ocular surface

睑缘包含了上下眼睑边缘部皮肤和皮下组织、睫毛毛囊及腺体。睑缘缺损可能引起睑缘角化, 诱发角膜结膜炎和角膜上皮损伤, 从而影响患者眼表健康状

态^[1-3]。对于该类患者, 可采取长期佩戴绷带镜的方式来降低睑缘缺损对眼表造成的危害^[4-5]。但长期佩戴绷带镜, 一方面患者的依从性不高, 另一方面也会使得角膜

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结膜炎症发生率上升,可能导致干眼,最终不得不通过手术修复的方式进行治疗^[6]。由于睑缘缺损的修复既涉及眼睑功能,又与患者容貌相关,关于手术方式的讨论一直存在。目前较为有效的方式包括直接进行睑裂缝合、使用羊膜移植或自体唇黏膜来进行睑缘缺损的修补^[7]。其中,使用唇黏膜修复眼表应用广泛^[8],更被广泛应用于角膜结膜和眼睑损伤的修补^[9-12],以及结膜囊狭窄和眼窝凹陷的修补^[13-14]。与羊膜移植相比,自体唇黏膜取材方便,术后眼睑有着较为良好的弹性和强度^[15],不易形成瘢痕性挛缩^[16]。

研究者^[17]对唇黏膜移植修复睑缘缺损的患者进行研究,发现术后患者的角膜上皮持续性缺损得到缓解,术后视力提高。但目前尚无关于此类患者术后眼表及泪膜分析的数据。本研究通过比较患者术眼和自身健眼的眼表相关检查数据,来分析唇黏膜移植术进行睑缘重建患者的眼表健康状态。

1 资料与方法

1.1 研究对象

本研究收集15例于2017年11月至2019年12月在上海交通大学医学院附属第九人民医院眼科接受唇黏膜移植术修复睑缘缺损,并于术后6~8周时复查患者的相关资料。患者为上睑睑缘缺损,均为单眼发病,健侧眼排除可能干扰研究相关检查的情况。研究通过上海交通大学医学院附属第九人民医院伦理委员会批准(伦理审批号:2016-212-T161),并遵守临床医学研究规范。所有研究内容均已得到患者及其家属的知情同意,患者签署知情同意书。

1.2 观察内容

在术后6~8周进行复查时,患者接受双眼眼表综合分析检查,包括泪河高度(tear meniscus height, TMH)、泪膜破裂时间(tear film breakup time, BUT)和泪液分泌试验(Schirmer test)。同时测量双眼睑裂高度(palpebral fissure height, PFH)和提上睑肌功能(levator function, LF)。

泪液分泌试验为局部麻醉后进行检查,定义10~15 mm/5 min为泪液分泌正常, ≥ 5 mm/5 min且 <10 mm/5 min为泪液低分泌, <5 mm/5 min为干眼。LF的测量是在阻止额肌的活动后通过测量上眼睑从极度向下注视到向上注视的偏移而得出。

此外,有研究^[18]指出进行眼表健康状况分析时,不

仅要对眼表相关检查的指标进行研究,还要关注受试者有无不良体验及受试者的生活质量。本研究中使用的眼表疾病指数(Ocular Surface Disease Index, OSDI)量表可通过“眼部症状”“视觉功能”和“环境触发”3个方面对患者有无干眼和干眼的程度进行分析和协助判断。一般认为OSDI得分 <10 分提示无明显干眼,10~20分提示轻度干眼,21~30分提示中度干眼, >30 分提示重度干眼^[19]。

1.3 手术方法及适用范围

全身麻醉后患者仰卧位,常规消毒铺巾,暴露患眼。沿术眼眼睑皮肤与睑结膜交界处切开,皮下钝性分离,测量睑缘缺损面积。口内消毒,切取相应大小唇黏膜,8-0可吸收线将黏膜对位间断缝合于睑缘缺损处。术后每日涂眼膏保持睑缘黏膜湿润至痊愈。该方法适用于睑缘缺损或睑内翻的治疗。

1.4 统计学分析

应用SPSS 23.0软件对数据进行统计学分析。连续性定量资料用 $\bar{x}\pm s$ 描述。术眼的相关指标的数据与健眼对应数据使用配对 t 检验进行比较。 $P<0.05$ 被认为差异有统计学意义。

2 结果

患者年龄为19~72岁,其中男性8例,女性7例;左眼上睑缺损者9例,右眼上睑缺损者6例;患者睑缘缺损长度至少为自身睑裂长度的1/2;眼睑肿物切除术后睑缘缺损7例,机械外伤性睑缘缺损3例,化学烧伤5例(表1)。

行唇黏膜移植术的患者术眼与健眼在形态方面保持基本对称(图1)。行唇黏膜移植术进行睑缘重建的患者术眼TMH、BUT、泪液分泌试验结果、PFH、LF与自身健眼相比,差异均无统计学意义(表2)。行唇黏膜移植术重建睑缘的患者OSDI量表平均得分为 26.44 ± 3.88 ,提示可能存在中等程度的干眼。

3 讨论

睑缘缺损的修复十分必要,任何可能发生瘢痕挛缩或瘢痕增生的缺损均应进行积极修复。若睑缘的缺损未引起足够重视,没有做到及时修复,常会引起并发症,如眼睑内翻与外翻、眼睑成角畸形、眼睑闭合不全和角

表1 患者基本情况

Tab 1 General information of the patients

No	Gender	Age/year	Eye	Ratio of defect to palpebral fissure length	Cause of defect
1	Male	22	Right	2/3	Trauma
2	Male	51	Right	1/2	After eyelid tumor resection
3	Male	47	Left	1/2	After eyelid tumor resection
4	Female	41	Left	2/3	Trauma
5	Male	46	Left	1/2	After eyelid tumor resection
6	Female	39	Right	4/5	Chemical burn
7	Male	44	Left	2/3	Chemical burn
8	Female	37	Left	1/2	Chemical burn
9	Male	53	Right	4/5	Chemical burn
10	Female	72	Right	4/5	After eyelid tumor resection
11	Female	67	Left	1/2	After eyelid tumor resection
12	Female	46	Right	1/2	After eyelid tumor resection
13	Male	19	Left	2/3	Trauma
14	Male	51	Left	1/2	After eyelid tumor resection
15	Female	66	Left	1/2	Chemical burn



图1 睑缘缺损患者术前术后照片
Fig 1 Preoperative and postoperative photos of the patient with palpebral margin defect

表2 唇黏膜移植术患者健眼和术眼的的数据比较

Tab 2 Comparison between fellow eyes and operated eyes of patients undergoing lip mucosa graft

Item	Fellow eye	Operated eye	P value
TMH/mm	0.24±0.07	0.23±0.11	0.316
BUT/s	10.75±2.31	7.75±2.05	0.065
Schirmer test/[mm·(5 min) ⁻¹]	10.20±1.96	9.33±2.04	0.376
PFH/mm	10.16±1.18	10.11±2.11	0.761
LF/mm	9.59±0.93	9.03±1.02	0.552

膜上皮损伤,严重者引起暴露性角膜炎;以上并发症均严重危害患者上睑功能及外观,并影响患者眼表环境的健康^[13]。本研究通过为受试者进行唇黏膜移植,积极修复睑缘缺损,使术眼在形态方面与健眼保持基本对称,更重要的是使患眼在TMH、BUT和泪液分泌试验结果等眼表分析指标上与自身健眼相接近。分析其原因:一方面上睑活动度大及瞬目运动的存在,上睑缘常与角膜表面进行相对运动,自体唇黏膜光滑度高、塑形性好,能

较好地贴合于眼表;另一方面使用唇黏膜覆盖于睑缘缺损表面,可有效减少瘢痕挛缩和眼睑畸形的发生^[13]。此法从以上两方面保护了患者的眼表健康。但由于此方法对患者缺失的腺体和睫毛毛囊等组织无法进行有效的修复,因此OSDI量表得分依旧提示患者患有中等程度的干眼。分析其原因,腺体的缺失可能会使得泪液中的脂质层含量减少,睫毛的缺失可能会令外界刺激更容易损害眼表,从而使得患者产生了不同程度的干眼症状。但患者产生中度干眼的原因尚需要进一步研究。此外,唇黏膜移植修复睑缘缺损亦有其局限性。因移植材料为唇黏膜,材料本身柔软、强度低,若睑缘缺损合并肌肉或睑板的损伤,则不适合单纯行唇黏膜移植术进行修补。此时应考虑联合其他术式进行修复。有研究者^[20-25]提出可应用自体鼻软骨、耳软骨或跟腱移植来进行睑板的重建。亦有研究者^[26]提出可使用自体颈阔肌移植来进行眼睑肌肉的重建,应用该方式可以使患者术后获得良好的眼睑机械强度和弹性;虽然目前该方式多用于下睑修复,但也为上睑的修复提供了思路。

综上所述,行唇黏膜移植术进行睑缘重建的患者于术后6~8周复查,其眼表相关检查结果显示术眼与自身健眼在各指标中的差异无统计学意义,泪膜及眼表健康状况可获得较为满意的结果,双眼眼睑对称度及上睑活动度良好。但根据OSDI量表得分,行唇黏膜移植术的患者术后6~8周时可能存在中等程度的干眼。

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