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翼状胬肉切除联合自体角膜缘干细胞移植术治疗翼状胬肉的临床疗效分析

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摘要 目的：研究翼状胬肉切除术联合自体角膜缘干细胞移植治疗翼状胬肉的临床效果。**方法：**将2010年3月-2015年3月本院收治的105例翼状胬肉患者随机分为观察组和对照组。观察组患者53例，行翼状胬肉切除术联合自体角膜缘干细胞移植；对照组患者50例，行单纯翼状胬肉切除术。比较两组患者手术一般资料、手术前后视力水平、散光程度以及术后3个月和6个月的复发率。**结果：**术后，观察组角膜上皮修复时间、不适症状持续时间、住院时间均短于对照组；术后视力恢复情况、散光改善程度优于对照组；术后3个月和6个月治愈率显著高于对照组；而观察组术后并发率低于对照组，差异均有统计学意义(P<0.05)。**结论：**翼状胬肉切除术联合自体角膜缘干细胞移植疗效显著、术后复发率低。

关键词：自体角膜缘干细胞移植；翼状胬肉；视力水平；散光程度

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Analysis of the Clinical Efficacy of Pterygium Excision Combined with Autologous Limbal Stem Cell Transplantation in the Treatment of Pterygium

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ABSTRACT Objective: To explore the clinical efficacy of pterygium excision combined with autologous limbal stem cell transplantation in the treatment of pterygium. **Methods:** From Mar 2010 to Mar 2015, 105 patients with pterygium in our hospital were randomly divided into the observation group and the control group. 53 patients in the observation group were treated with pterygium excision combined with autologous limbal stem cell transplantation and 50 patients in the control group were treated with simple pterygium excision. The general situation during the perioperation, visual acuity and astigmatism degree before and after surgery, curative rates and recurrence rate were compared between two groups. **Results:** The cormeal epithelial healing time, duration of unwell symptoms and hospital stay of observation group were shorter than those of the control group (P<0.05); the visual acuity and astigmatism degree after surgery of observation group were significantly better than those of the control group (P<0.05); the curative rates of observation group at 3 months and 6 months after surgery were significantly higher than those of the control group and the recurrence rate of observation group was lower than that of the control group (P<0.05). **Conclusion:** Pterygium excision combined with autologous limbal stem cell transplantation was effective in the treatment of Pterygium with lower recurrence rate.

Key words: Autologous limbal stem cell transplantation; Pterygium; Visual acuity; Astigmatism degree

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前言

翼状胬肉是临床眼科一种常见的疾病，在世界范围内，尤其在热带和亚热带地区流行，50岁以上人口中发病率达39%[1]。其主要是由于外界刺激引起眼睛新血管生成和成纤维细胞异常增殖所致[2,3]。翼状胬肉不仅影响外观，而且会引起角膜散光，以致于瞳孔区被遮挡而影响视力，情况严重的患者会产生不同程度的眼球运动障碍[4]。目前，该病的治疗方法以手术为主，然而传统切除术虽然有一定的效果，但是术后复发率高、风险大，且角膜创面在愈合时可能留下瘢痕，影响视力的恢复[5,6]。近年来，广泛使用微创技术，自体角膜缘干细胞移植术成为了可行的治疗方法[7-10]。本研究选择105例翼状胬肉患者为研究对象，分别采用单纯翼状胬肉切除术、切除术联合自体角膜缘干细胞移植进行干预，比较患者视力恢复情况、术后复发情况，旨在探讨研究自体角膜缘干细胞移植对翼状胬肉的疗效，以期为临床选择最佳的翼治疗方法提供参考，结果报道如下。

1 资料与方法

1.1 一般资料

选取2010年3月-2015年3月本院收治的105例初发单眼翼状胬肉患者为研究对象，随机分为对照组和观察组。对照

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组:50 例,男(33 例),女(17 例);年龄(21-72)岁,平均(45.7± 7.8)岁;病程 7 天 -3 个月,平均(23.5± 5.3)天;胬肉表面不平 14 例,头部隆起 20 例,体部肥厚 16 例。观察组:53 例,男(34 例),女(19 例);年龄(23-70)岁,平均(46.1± 6.5)岁;病程 5 天 -3 个月,平均(23.8± 4.9)天;胬肉表面不平 14 例,头部隆起 21 例,体部肥厚 18 例。两组患者一般资料比较差异无统计学意义(P>0.05),具有可比性。

1.2 纳入和排除标准[11,12]

纳入标准:① 均为鼻侧原发性单侧翼状胬肉患者;② 病程小于 3 个月;③ 依从性好。

排除标准:① 排除合并复发性翼状胬肉患者;② 排除伴有沙眼、脸内翻、脸外翻、慢性泪囊炎以及急性结膜炎患者;③ 排除心肝肾功能障碍者;④ 排除有造血系统疾病以及精神类疾病患者。

1.3 手术方法

术前 5 d,所有患者用 0.3%左氧氟沙星滴眼液(长春迪瑞制药有限公司,国药准字 H20103347) 滴眼,3 次 /d。对照组行翼状胬肉切除术治疗:手术在显微镜下进行,患者平卧位,0.4%倍诺喜(日本参天制药株式会社,批准文号 J20100128)滴眼进行表面麻醉,以利多卡因注射液(2% 0.5 mL)(上海朝晖药业,国药准字 H31021072)做结膜下浸润麻醉。麻醉后,以弧形剪由胬肉颈部合适位置剪开球结膜,将胬肉组织与鼻侧正常球结膜分离,选取剪刀入口是距角膜边缘 3-5 mm 的胬肉体,胬肉剪断,将胬肉头部前 1 mm 处定为切口,将角膜上皮到巩膜表明的前弹力层及增生组织切开,剥离胬肉的颈、头、体部,最后将角膜及巩膜表面的胬肉彻底清除,并尽可能保证眼角膜表面积巩膜面光滑,适当止血、避免眼角组织感染。观察组行翼状胬肉切除术的同时给予自体角膜缘干细胞移植:在术眼上方或下方取包含有角膜缘干细胞且稍大于创面的移植片,将移植片平贴于植床上,且尽可能与眼角缺损区吻合,采用 10-0 尼龙线对植床角膜边缘进行间断缝合以固定结膜移植片。术后,患者用贝复舒(亿胜生物制药有限公司,国药准字 S19991022)和左氧氟沙星滴眼液(0.3%)滴眼,8 次 /d;5 d 后,可减少使用次数(依患者恢复情况),术后 15 d,间断性拆线且定期诊断。

1.4 观察指标

记录患者术后角膜上皮修复时间、不适症状持续时间、住院时间以及结膜充血率等一般情况,术前及术后 6 月采用激光干涉条纹检测所有患者术眼视力及散光程度;统计术后 3 个月和 6 个月治愈率和复发率[8],治愈:指上皮愈合,结膜整齐平滑,角膜组织柔顺光滑,无成纤维细胞异常增生及新血管出现。复发:复查时出现新血管出现、成纤维细胞异常增加、结膜有明显充血以及增厚。

1.5 统计学分析

采用 SPSS19.0 软件分析进行数据分析,计量资料以均值± 标准差($\bar{x}$± s)表示,采用 t 检验;计数资料以率(%)表示,采用 χ^2 检验;以 P<0.05 为差异有统计学意义。

2 结果

2.1 两组患者手术情况的比较

观察组角膜上皮修复时间、不适症状持续时间、住院时间、结膜充血率均显著低于对照组,差异具有统计学意义(P<0.01),见表 1。

表 1 两组手术情况的比较

Table 1 Comparison of the general situation between two groups during the perioperation

Groups	Cormeal epithelial healing time(d)	Duration of unwell symptoms(d)	Hospital stay(d)	Conjunctival congestion rate [n(%)]
Observation group(n=53)	2.34± 0.58	3.75± 0.77	7.36± 1.51	31(58.49)
Control group(n=50)	3.78± 0.75	5.13± 0.84	9.60± 2.19	39(78.00)
P	0.000	0.001	0.016	0.004

2.2 两组患者手术前后视力情况的比较

术前,两组视力、散光程度比较差异无统计学意义(P>0.05);术后,观察组视力显著高于对照组,而散光程度明显低于对照组,差异均具有统计学意义(P<0.01),见表 2。

表 2 两组患者手术前后视力、散光程度的比较

Table 2 Comparison of the visual acuity and astigmatism degree between two groups before and after surgery

Groups	Visual acuity		Astigmatism degree	
	Before surgery	6 months after surgery	Before surgery	6 months after surgery
Observation group(n=53)	0.25± 0.05	1.04± 0.15	2.04± 0.21	0.45± 0.06
Control group(n=50)	0.24± 0.03	0.72± 0.09	2.05± 0.24	0.98± 0.14
P	0.713	0.000	0.921	0.000

2.3 两组术后痊愈率、复发率的比较

术后 3 个月和术后 6 个月,观察组的治愈率显著高于对照组,但复发率呈现相反趋势,差异均具有统计学意义(P<0.05),见表 3。

3 讨论

翼状胬肉的发病原因尚不完全清楚,一般认为其主要是由于患者眼睛长时间受到风沙、尘土、强光等刺激,导致眼角血管通透性加强、白细胞侵犯性力增大,使得干细胞增殖与分化调节作用下降,导致眼睛成纤维细胞异常增殖、新血管形成所致[13-15]。该病的早期症状不甚明显,患者仅出现轻度不适,而当胬肉组织生长至角膜后,由于角膜受到牵拉使患者眼睛出现散

光;若胬肉向角膜表面深处生长遮蔽瞳孔时,就会引起视物模糊、视力下降等[16,17]。

表 3 两组术后 3 个月、6 个月的治愈率与复发率比较

Table 3 Comparison of the curative rate and recurrence rate between two groups at 3 months and 6 months after surgery

Groups	Currence		Recurrence	
	At 3 months after surgery	At 6 months after surgery	At 3 months after surgery	At 6 months after surgery
Observation group(n=53)	50(94.34)	48(90.57)	1(1.89)	3(5.66)
Control group(n=50)	41(82.00)	37(74.00)	6(12.00)	10(20.00)
P	0.015	0.003	0.010	0.005

目前,手术是翼状胬肉的主要治疗方法,传统的手术是将眼角膜中的胬肉切除以达到治疗目的,但是术后创面愈合时间较长且复发率高[18-21]。本研究结果显示单独行翼状胬肉切除术的对照组患者术后 3 个月和 6 个月的治愈率分别是 82.00%、74.00%,复发率高达为 12.00%和 20.00%,结膜充血率为 78.00%,且患者术后视力恢复情况也较差;可能是由于治疗后患者角膜上皮损伤需长时间的恢复,术后,无法修复角膜缘干细胞作用,角膜组织里成纤维细胞增加不能得到有效控制,导致患者术后复发率和结膜充血率高,影响预后。

由于患者角膜缘干细胞受到损害、角结膜屏障功能阻碍导致翼状胬肉产生,自体角膜缘干细胞移植是运用机体眼表面组织对受损部位进行重建[22-24],组织兼容性好,可使受损眼角膜组织不断地快速愈合。同时,还可以阻止成纤维细胞增加,不让翼状胬肉再生[25-30]。本研究结果表明观察组患者术后角膜上皮修复时间、不适症状持续时间、住院时间较对照组也有明显缩短,且术后视力和散光程度恢复情况均优于对照组,同时观察组患者术后 3 个月和 6 个月的复发率仅为 1.89%、5.66%;提示角膜缘干细胞移植可使角膜缘及角膜表面受损组织较快愈合,角膜上皮组织得到修复,成纤维细胞增生得到抑制,降低了复发率;术后仍有少部分患者翼状胬肉复发,推断原因可能是由于角膜组织中翼状胬肉有残留或者移植片不含角膜缘干细胞所致。因此,为提高疗效,行胬肉切除术时应尽可能清除胬肉组织,同时选取移植含有角膜缘干细胞的组织。

综上所述,翼状胬肉切除术联合自体角膜缘干细胞移植对翼状胬肉的疗效显著,能够显著缩短患者的术后恢复时间,促进患者的视力恢复情况,降低结膜充血率和疾病复发率。

参 考 文 献(References)

[1] Zhong H, Cha XP, Wei T, et al. Prevalence of and risk factor for pteygium in rural adult Chinese populations of the Bai Nationality in Dail: The Yunnan Minority Eye Study[J]. Invest Ophthalmol Vis Sci, 2012, 53: 6617-6621

[2] Dzunic B, Jovanovic P, Petrovic A. Comparative Analysis Of Pterygium Clinical Characteristics [J]. Acta Facultatis Medicae Naissensis, 2009, 26(2): 159-165

[3] Kase S, Takahashi S, Sato I, et al. Expression of p27 (KIP1) and cyclin D1, and cell proliferation in human pterygium [J]. British Journal of Ophthalmology, 2008, 92(1): 958-961

[4] Fernandes M, Sangwan VS, Bansal AK, et al. Outcome of pterygium surgery: analysis over 14 years [J]. Eye, 2005, 11: 1182-1190

[5] Huerva V, March A, Martinez-Alonso M, et al. Pterygium surgery by means of conjunctival autograft: Long term follow-up [J]. Arquivos Brasileiros De Oftalmologia, 2012, 75(4): 251-255

[6] Sandra S, Zeljka J, Zeljka V A, et al. The influence of pterygium morphology on fibrin glue conjunctival autografting pterygium surgery[J]. International Ophthalmology, 2014, 34(1): 75-79

[7] Hu Z J, Li T, Ophthalmology D O. Curative effect comparison of stem cell transplantation of supprior-inferior autologous corneal limbus in the treatment of pterygium[J]. International Eye Science, 2015, 15(8): 33-36

[8] Yan M R, Peng C F, Zhou Y M, et al. Autologous Corneal Limbus Stem Cells Transplantation in Treating Pterygium [J]. Journal of Hunan Normal University, 2006, 31(6):124-126

[9] Wang X, Zhang Q, He X. Corneal limbal stem cell autograft and conjunctiva transplantation for treatment of pterygium [J]. Eye Science, 1999, 15(2): 89-90

[10] Zhao X M, Wang Y H. Transplantation of auto-corneal limbus stem cell combined with MMC treating recurrent pterygium[J]. Jilin Medical Journal, 2007

[11] Li Ling, Yue Hui. Two different ways of pterygium surgery on corneal refractive effect [J]. International journal of ophthalmology, 2012, 12(12): 2424-2426

[12] Wu JY, Wang XH, Sun FY, et al. Autologous limbal stem cells and biological amniotic membrane transplantation for the treatment of pterygium curative effect comparison [J]. Journal of shandong medicine, 2013, 53(13): 62-64

[13] Zeng ZC, Peng QH. Clear soup for pterygium resection after basal tear secretion and the effect on the stability of the film ACTS [J]. Journal of traditional Chinese medicine, 2014, 55(3): 218-221

[14] Wong B H, Chan J P, Cazenavegassiot A, et al. Mfsd2a is a transporter for the essential omega-3 fatty acid DHA in eye and important for photoreceptor cell development [J]. Journal of Biological Chemistry, 2016, 291(20): jbc.M116.721340

[15] Gumus K, Topaktas D, Goktas A, et al. The change in ocular higher-order aberrations after pterygium excision with conjunctival autograft: a 1-year prospective clinical trial[J]. Cornea, 2012, 31(12): 1428-1431

[16] Beltran W A, Cideciyan A V, Iwabe S, et al. Successful arrest of photoreceptor and vision loss expands the therapeutic window of retinal gene therapy to later stages of disease[J]. Proceedings of the National Academy of Sciences, 2015, 112(43): 5844-5853

[17] Li F, Huang LF, Wang LF. Pterygium excision with autologous limbal stem cell transplantation therapy the clinical effect of the treatment of pterygium[J]. Journal of jilin medicine, 2014, 35(9): 1843

[18] Sekundo W, Droutsas K, Cursiefen C. Operative techniques for surgical treatment of primary and recurrent pterygia[J]. Der Ophthalmologe

Zeitschrift Der Deutschen Ophthalmologischen Gesellschaft, 2010, 107(6): 525-528

[19] Tekin N F, Kaynak S, Saatci A O, et al. Preserved amniotic membrane transplantation in the treatment of primary pterygium [J]. Ophthalmic Surgery & Lasers, 2001, 32(6): 464-469

[20] Eze B I, Maduka-Okafor F C, Okoye O I, et al. Pterygium: A review of clinical features and surgical treatment [J].Nigerian Journal of Medicine Journal of the National Association of Resident Doctors of Nigeria, 2011, 20(1): 7-14

[21] Kocabora S M, Fazil K, Ozsutcu M, et al. Subconjunctival bevacizumab injection in the surgery of primary pterygium: comparison with intraoperative mitomycin-C [J]. Bulletin de la Société belge d'ophtalmologie, 2013, (322): 7

[22] Wang X, Chen J. Long-term Efficacy and Ocular Surface of Pterygium Excision Combined with Autologous Corneal Limbal Stem Cell Transplantation in Treatment of Pterygium[J]. Eye Sci, 2015: 101-105

[23] Rama P, Bonini S, Lambiase A, et al. Autologous fibrin-cultured limbal stem cells permanently restore the corneal surface of patients with total limbal stem cell deficiency [J]. Transplantation, 2001, 72(9): 1478-1485

[24] Yang Q, Ophthalmology D O. Analysis of the reasons on corneoscleral limbus ulcer after excision of pterygium combineded with autologous corneal limbal stem cell transplantation[J]. Chinese Community Doctors, 2015

[25] Kim SW, Park S, Im CY, et al. Prediction of mean corneal power change after pterygium excision[J]. Cornea, 2014, 33(2): 148-153

[26] Farid M, Pirnazar J R. Pterygium recurrence after excision with conjunctival autograft: a comparison of fibrin tissue adhesive to absorbable sutures[J]. Cornea, 2009, 28(1): 43-45

[27] Ozsutcu M, Ayintap E, Akkan J C, et al. Repeated bevacizumab injections versus mitomycin C in rotational conjunctival flap for prevention of pterygium recurrence[J]. Indian Journal of Ophthalmology, 2013, 62(4): 407-411

[28] Leippi S, Grehn F, Geerling G. Antiangiogenic therapy for pterygium recurrence [J]. Der Ophthalmologe Zeitschrift Der Deutschen Ophthalmologischen Gesellschaft, 2009, 106(5): 413-419

[29] Jaworski C J, Aryankalayiljohn M, Campos M M, et al. Expression analysis of human pterygium shows a predominance of conjunctival and limbal markers and genes associated with cell migration [J]. Molecular vision, 2009, 15(256-59): 2421-2434

[30] Mahar P S, Manzar N. Pterygium recurrence related to its size and corneal involvement [J]. J Coll Physicians Surg Pak, 2013, 23(2): 120-123

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[22] Zhang W. Explore Neck Vessels Carotid Artery Color Doppler Ultrasound in Diagnosis of Ischemic Cerebrovascular Disease Significance of Vascular Lesions [J]. China Continuing Medical Education, 2015, 44(13): 1570-1575

[23] Valero-Rosa J, Campos-Hernández J P, Carrasco-Valiente J, et al. Prognostic value of penile color Doppler ultrasonography for recovering erectile function after radical prostatectomy [J]. Actas Urológicas Españolas, 2016, 40(08): 507-512

[24] Stryczyński Ł, Kostka-Jeziorny K, Juszkat R, et al. Aortic coarctation disclosed in a middle-aged hypertensive patient by tardus parvus waveform in renal Doppler ultrasonography [J]. Kardiologia Polska, 2016, 74(11): 1355-1359

[25] MlGD RM, Ferreira DAEBV, Machado DAT, et al. Liver hemodynamic patterns in nonalcoholic steatosis: Doppler ultrasonography and histological evaluation[J]. Minerva Gastroenterologica E Dietologica, 2016, 62(17): 1902-1904

[26] Zhu J, Di L I, Ultrasound D O. High Frequency Color Doppler Ultrasound Combined with Multi-Slice Spiral CT in the Diagnosis of Thyroid Carcinoma[J]. Medical Recapitulate, 2015, 34(33): 707-782

[27] Wang X H, Peng G E, Hou M W. Investigation of the Display Abilities of Color Doppler Ultrasound and Multi-slice Computed Tomography on Thyroid Nodules: A Comparative Study [J]. Medical Recapitulate, 2015, 03(34): 1229-1302

[28] Abdel-Gawad M, Kadasne R D, Elsobky E, et al. A Prospective Comparative Study between Color Doppler Ultrasound with Twinkling and Non-Contrast Computed Tomography in the Evaluation of Acute Renal Colic[J]. Journal of Urology, 2016, 196(3): 757-762

[29] Jin Z Q, He W, Wu D F, et al. Color Doppler Ultrasound in Diagnosis and Assessment of Carotid Body Tumors: Comparison with Computed Tomography Angiography.[J]. Ultrasound in Medicine & Biology, 2016, 42(9): 2106-2113

[30] Cignini P, Laganà A S, Retto A, et al. Knotting on heaven's door: 3D color Doppler ultrasound imaging of a true cord knot [J]. Archives of Gynecology and Obstetrics, 2016, 293(6): 1-2