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【应用研究】

小切口非超声乳化与超声乳化术治疗年龄相关性 白内障的临床效果及其对生活质量的影

孙敏 陈雪霁 孙晓艳

作者简介:孙敏,女,1975年6月出生,江苏沛县人,硕士,主治医师。研究方向:白内障、青光眼。联系电话:13810800603;E-mail:v_valentne@163.com

About SUN Min: Female, born in June, 1975. Master degree, attending doctor. Tel: 13810800603; E-mail: v_valentne@163.com

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作者单位:062552 河北省任丘市,华北石油总医院眼科(孙敏,陈雪霁);062552 河北省任丘市,渤海石油职业学院(孙晓艳)

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From the Department of Ophthalmology, Huabei Petroleum General Hospital (SUN Min, CHEN Xue-Ji), Renqiu 062552, Hebei Province, China; Bohai Petroleum Vocational College (SUN Xiao-Yan), Renqiu 062552, Hebei Province, China

Compared with phacoemulsification group, the score of life quality at postoperative 2 weeks in small incision group were higher, but there was no statistical difference (all $P > 0.05$). **Conclusion** Small incision cataract extraction is more suitable for age-related cataract patients in primary hospital.

[Rec Adv Ophthalmol, 2014, 34(3):242-244]

【关键词】小切口非超声乳化术;超声乳化术;白内障;生活质量

【摘要】目的 探讨小切口非超声乳化术与超声乳化术治疗年龄相关性白内障的临床效果及其对生活质量的影响。方法 选取2012年2月至2013年3月我院收治的年龄相关性白内障患者62例(62眼),依据手术方式不同分为非超声乳化组(28例)和超声乳化组(34例)。比较分析两组患者术后2周视力、手术前后角膜内皮变化以及术后2周生活质量评分情况。结果 与超声乳化组相比,非超声乳化组患者术后2周视力 ≤ 0.1 的比率(7.14%)明显降低,视力 ≥ 0.5 的比率(75.00%)明显提高,差异有统计学意义($P < 0.05$)。与术前相比,两组患者术后角膜内皮细胞数、细胞密度及六角形细胞比例均明显下降,差异均有统计学意义(均为 $P < 0.05$);与超声乳化组相比,非超声乳化组患者术后角膜内皮细胞数、细胞密度及六角形细胞比例均较高,差异均有统计学意义(均为 $P < 0.05$)。与超声乳化组相比,非超声乳化组患者术后2周生活质量评分均较高,但差异均无统计学意义(均为 $P > 0.05$)。结论 小切口非超声乳化术更适于基层医院在年龄相关性白内障患者的治疗中广泛推广应用。

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白内障作为眼科临床较为常见的多发病之一,以视力减退和视物模糊为主要临床症状,且多发于中老年患者,目前已成为我国老年人致盲的主要原因之一^[1]。传统的超声乳化摘出术由于切口较大,使得高龄患者术后愈合较慢,并发症较多,对患者及

其家属的生活质量均造成了一定的影响^[2]。因此,为了进一步提高年龄相关性白内障患者的临床效果和术后生活质量,本院采用小切口非超声乳化术进行治疗,取得了较为满意的效果,现总结报告如下。

Clinical efficacy of small incision cataract extraction and phacoemulsification for age-related cataract and its effects on quality of life

SUN Min, CHEN Xue-Ji, SUN Xiao-Yan

【Key words】 small incision cataract extraction; phacoemulsification; cataract; quality of life

【Abstract】 **Objective** To investigate the clinical efficacy of small incision cataract extraction and phacoemulsification for age-related cataract and its effects on quality of life. **Methods** A total of 62 patients with age-related cataract in our hospital from February, 2012 to March, 2013 were chosen. According to the surgical procedure, the patients were divided into small incision extraction group (28 cases) and phacoemulsification group (34 cases). The postoperative visual acuity at 2 weeks, changes of the corneal endothelial cell counting before and after surgery, and scores of quality of life at 2 weeks after surgery of the patients in two groups were compared and analyzed. **Results** Compared with phacoemulsification group, the rate of visual acuity less than 0.1 at postoperative 2 week in small incision group (7.14%) was obvious lower, and the visual acuity more than 0.5 (75.00%) was obvious higher, there was statistical difference ($P < 0.05$). Compared with pre-operation, the postoperative corneal endothelial cell number, density and hexagonal cell rate were all obviously decreased in two groups, there were statistical differences (all $P < 0.05$), which in the phacoemulsification group were lower than small incision group, there were statistical differences (all $P < 0.05$).

Compared with phacoemulsification group, the score of life quality at postoperative 2 weeks in small incision group were higher, but there was no statistical difference (all $P > 0.05$). **Conclusion** Small incision cataract extraction is more suitable for age-related cataract patients in primary hospital.

[Rec Adv Ophthalmol, 2014, 34(3):242-244]

1 资料与方法

1.1 一般资料 选取2012年2月至2013年3月我院眼科收治的年龄相关性白内障患者62例(62眼),其中男36例,女26例,年龄58~77(65.86±8.91)岁。所有患者均排除先天性白内障、代谢性白内障、并发性白内障以及外伤性白内障。术前所有患者矫正视力≤0.3,眼压≤21 mmHg(1 kPa=7.5 mmHg),依据 Emery 分级标准^[3]对晶状体核硬度进行分级:Ⅱ级40例,Ⅲ级22例。依据手术方式不同,将患者分为:非超声乳化组28例,其中男18例,女10例,年龄56~77(64.56±9.12)岁;超声乳化组34例,其中男18例,女16例,年龄58~79(66.35±8.06)岁。两组患者在性别比例、年龄等方面比较,差异均无统计学意义(均为 $P>0.05$),具有可比性。

1.2 手术方法 两组患者均于术前3 d使用抗生素滴眼液,术前1 d行泪道及结膜囊冲洗,并给予复方托吡卡胺滴眼液散瞳,采用20 g·L⁻¹利多卡因进行球周常规麻醉,效果不佳者可加用局部浸润麻醉或神经阻滞麻醉。

1.2.1 白内障超声乳化摘出术 在患眼正上方距角膜缘2 mm处做反眉形透明角膜切口5~6 mm,切口大小依据患者人工晶状体直径而定,采用撕囊镊进行连续环形撕囊,并分别对前囊与皮质、皮质与核之间行充分的水分离。在前房与囊袋中注入黏弹剂后植入折叠型人工晶状体,再将前房和囊袋内的残留黏弹剂抽吸干净,采用灌注液维持前房深度,切口闭合后单眼敷料覆盖。

1.2.2 小切口非超声乳化术 在患眼正上方沿角膜缘将球结膜剪开,并分离结膜下组织,在距角膜缘2 mm处做长约6 mm的切口,切口大小依据患者晶状体核大小而定,采用自制截囊针对晶状体进行连续环形撕囊,并分别对前囊与皮质、皮质与核之间行充分的水分离。采用截囊针拨动晶状体核使其核顺利脱入前房。在核下及核与角膜内皮间注入黏弹剂,采用圈匙从下方托住晶状体核并取出核块,采用双管针头注吸残留皮质,再将人工晶状体植入囊袋内,抽吸干净前房和囊袋内黏弹剂,采用灌注液维持前房深度,检查切口闭合性,对于无渗透者无需缝合,单眼敷料覆盖。

1.3 观察指标 比较分析两组患者术后2周视力情况、手术前后角膜内皮变化情况以及术后2周生活质量评分情况等。患者生活质量采用QOL生活质量调查表进行检测^[4]。

1.4 统计学分析 数据均采用SPSS 16.0软件进行统计学分析,手术前后角膜内皮细胞数变化情况及术后2周生活质量评分情况采用 t 检验,患者术前、术后2周视力恢复情况比较采用 χ^2 检验, $P<0.05$ 为差异有统计学意义。

2 结果

2.1 两组患者术后2周视力比较 两组患者术后2周视力比较见表1。与超声乳化组相比,非超声乳化组患者术后2周视力≤0.1的比率明显降低,视力≥0.5的比率明显提高,两组视力差异有统计学意义($P<0.05$)。

表1 两组患者术后2周视力情况

Table 1 Comparison of visual acuity between two groups at postoperative 2 weeks (eye, rate/%)

Group	≤0.1	0.1-0.5	≥0.5
Phaco	8 (23.53)	9 (26.47)	17 (50.00)
Non-phaco	2 (7.14)	5 (17.86)	21 (75.00)

2.2 两组患者手术前后角膜内皮变化比较 两组患者手术前后角膜内皮变化比较见表2。与术前相比,两组患者术后角膜内皮细胞数、细胞密度及六角形细胞比例均明显下降,差异均有统计学意义(均为 $P<0.05$);与超声乳化组相比,非超声乳化组患者术后角膜内皮细胞数、细胞密度及六角形细胞比例均较高,差异均有统计学意义(均为 $P<0.05$)。

表2 两组患者手术前后角膜内皮变化情况

Table 2 Comparison of corneal endothelium between two groups

Group		Cell number	Cell density/mm ⁻²	Hexagonal rate(rate/%)
Phaco	Pre-operation	104.98±11.57	2491.62±160.76	45.12±3.37
	Post-operation	48.16±9.97	1648.11±176.29	30.03±4.29
Non-phaco	Pre-operation	106.95±11.49	2519.64±184.82	48.13±5.46
	Post-operation	64.53±8.16	1895.44±193.39	41.06±3.19

2.3 两组患者术后2周生活质量评分比较 两组患者术后2周生活质量评分比较见表3。与超声乳化组相比,非超声乳化组患者术后2周生活质量评分均较高,但差异均无统计学意义(均为 $P>0.05$)。

表3 两组患者术后2周生活质量评分比较

Table 3 Comparison of life quality scores between two groups (score)

Group	Self-care state	Social intercourse	Psychologic status	Total
Phaco	84.98±4.57	82.62±8.76	82.12±5.37	83.16±6.58
Non-phaco	86.53±5.16	83.44±7.39	83.06±6.19	84.72±6.47

3 讨论

目前,手术治疗是白内障患者的主要有效治疗手段,其中最常见的是小切口非超声乳化术和超声乳化摘出术两种。超声乳化摘出术设备较为昂贵,操作较为复杂,对操作人员的技术水平要求较高,术后并发症较多,严重影响了其在基层医院的普遍开展^[5-7]。而小切口非超声乳化术操作器械及步骤均较为简单,且术后并发症较少,进而使其在基层医院得到了广泛的临床应用。本研究结果显示,与超声乳化组相比,非超声乳化组患者术后2周视力≤0.1的比率明显降低,视力≥0.5的比率明显提高,两组视力差异具有统计学意义($P<0.05$)。

对于白内障患者而言,由于年龄的增长,角膜内皮细胞数量呈逐渐减少趋势,细胞密度逐渐降低,而内皮细胞的损失为不可再生,且超声乳化术和小切口非超声乳化术均会造成患者角膜内皮细胞的不同程度损伤^[8]。本研究结果显示,与术前相比,两组患者术后角膜内皮细胞数、细胞密度及六角形细胞比例均明显下降,差异均有统计学意义(均为 $P < 0.05$)。与超声乳化组相比,非超声乳化组患者术后角膜内皮细胞数、细胞密度及六角形细胞比例均较高,差异均有统计学意义(均为 $P < 0.05$)。这可能与超声乳化术使用超声能量有关,对于晶状体核硬度较高的高龄患者而言,超声时间较长,进而导致角膜内皮细胞损伤较为严重^[9]。

QOL生活质量调查作为颇受关注的眼科术后评价方法,能够对患者视力检查结果进行有效补充,通过结合医患双方各因素,对患者的社会活动和心理状况作出较为全面的评价^[10]。本研究通过对两组患者生活质量评分的调查发现,与超声乳化组相比,非超声乳化组患者术后2周生活质量评分均较高,但差异均无统计学意义(均为 $P > 0.05$)。

由此可见,小切口超声乳化术以简单的操作、低廉的设备以及较为显著的临床效果适于基层医院在

年龄相关性白内障患者治疗中广泛应用。

参考文献

- 何守志. 晶状体病学[M]. 北京: 人民卫生出版社, 2004, 70.
- 谢明明, 张辉, 邹贺, 刘志涛. 小切口非超声乳化与超声乳化治疗老年性白内障疗效比较[J]. 中国老年学杂志, 2012, 32(2): 261-262.
- Lau J, Michon JJ, Chan WS. Visual acuity and quality of life outcomes in cataract surgery patients in Hongkong[J]. *Br J Ophthalmol*, 2002, 86(1): 12-17.
- 夏亮. 超声乳化白内障摘出术与小切口非超声乳化摘出术的临床对比分析[J]. 中国医药指南, 2013, 11(4): 106-107.
- Leong A, Rubin GS, Allan BD. Quality of life in high myopia: implantable collamer lens implantation versus contact lens wear[J]. *Ophthalmology*, 2009, 116(2): 275-276.
- Alio JL, Ruiz-Moreno JM, Shabayek MH. The risk of retinal detachment in high myopia after small incision coaxial phacoemulsification[J]. *Am J Ophthalmol*, 2007, 144(1): 93-98.
- Tejedor J, Murube J. Choosing the location of corneal incision based on preexisting astigmatism in phacoemulsification[J]. *Am J Ophthalmol*, 2005, 139(5): 767-776.
- Degenring RF, Vey S, Kampmpeter B, Budde WM, Jonas JB, Sauder G. Effect of uncomplicated phacoemulsification on the central retina in diabetic and non-diabetic subjects[J]. *Graefes Arch Clin Exp Ophthalmol*, 2007, 245(1): 18-23.
- Biro Z, Balla Z, Kovacs B. Change of foveal and perifoveal thickness measured by OCT after phacoemulsification and IOL implantation[J]. *Eye*, 2008, 22(1): 8-12.
- 易湘龙, 李丽, 陈雪艺, 谢婷玉. 超声乳化白内障吸除术和小切口非超声乳化白内障摘出术临床效果及患者生存质量比较[J]. 第四军医大学学报, 2009, 30(11): 1030-1033.
- Gil N, Soler-Lluis N, Mendez-Marin I, et al. Ten-year incidence of diabetic retinopathy and macular edema. Risk factors in a sample of people with type 1 diabetes[J]. *Diabetes Res Clin Pract*, 2011, 94(1): 126-132.
- Buch H, Vinding T, la Cour M, Jensen GB, Prause JU, Nielsen NV. Risk factors for age-related maculopathy in a 14-year follow-up study: the Copenhagen City Eye Study[J]. *Acta Ophthalmol Scand*, 2005, 83(4): 409-418.
- Hevonoja T, Pentikainen MO, Hyvonen MT, Kovanen PT, Ala-Korpela M. Structure of low density lipoprotein (LDL) particles: basis for understanding molecular changes in modified LDL[J]. *Biochim Biophys Acta*, 2000, 1488(3): 189-210.
- Elnor VM. Retinal pigment epithelial acid lipase activity and lipoprotein receptors; effects of dietary omega-3 fatty acids[J]. *Trans Am Ophthalmol Soc*, 2002, 100: 301-338.
- Haimovici R, Kramer M, Miller JW, Hasan T, Flotte TJ, Schomacker KT, et al. Localization of lipoprotein-delivered benzoporphyrin derivative in the rabbit eye[J]. *Curr Eye Res*, 1997, 16(2): 83-90.
- Javadzadeh A, Ghorbanihaghjo A, Rashtchizadeh N, Rafeey M, Rahimi-Ardabili B. Enhanced susceptibility of low-density lipoprotein to oxidation in wet type age-related macular degeneration in male patients[J]. *Saudi Med J*, 2007, 28(2): 221-224.
- Yin L, Shi Y, Liu X, Zhang H, Gong Y, Gu Q, et al. A rat model for studying the biological effects of circulating LDL in the choriocapillaris-BrM-RPE complex[J]. *Am J Pathol*, 2012, 180(2): 541-549.
- 中国成人血脂异常防治指南制订联合委员会. 中国成人血脂异常防治指南[J]. 中华心血管病杂志, 2007, 35(5): 390-419.
- Jeon H, Blacklow SC. Structure and physiologic function of the low-density lipoprotein receptor[J]. *Annu Rev Biochem*, 2005, 74: 535-562.
- Robbesyn F, Auge N, Vindis C, Cantero AV, Barbaras R, Negre-Salvayre A, et al. High-density lipoproteins prevent the oxidized low-density lipoprotein-induced epidermal growth factor receptor activation and subsequent matrix metalloproteinase-2 upregulation[J]. *Arterioscler Thromb Vasc Biol*, 2005, 25(6): 1206-1212.
- Li CM, Clark ME, Chimento MF, Curcio CA. Apolipoprotein localization in isolated drusen and retinal apolipoprotein gene expression[J]. *Invest Ophthalmol Vis Sci*, 2006, 47(7): 3119-3128.
- Li CM, Presley JB, Zhang X, Dashti N, Chung BH, Medeiros NE, et al. Retina expresses microsomal triglyceride transfer protein; implications for age-related maculopathy[J]. *J Lipid Res*, 2005, 46(4): 628-640.
- Talmud PJ, Converse C, Krul E, Huq L, Mcilwaine GG, Series JJ, et al. A novel truncated apolipoprotein B (apo B55) in a patient with familial hypobetalipoproteinemia and atypical retinitis pigmentosa[J]. *Clin Genet*, 1992, 42(2): 62-70.
- Huq L, McLachlan T, Hammer HM, Bedford D, Packard CJ, Shepherd J, et al. An increased incidence of apolipoprotein E2/E2 and E4/E4 in retinitis pigmentosa[J]. *Lipids*, 1993, 28(11): 995-998.
- Deguchi Y, Maeno T, Saishin Y, Hori Y, Shiba T, Takahashi M. Relevance of the serum apolipoprotein ratio to diabetic retinopathy[J]. *Jpn J Ophthalmol*, 2011, 55(2): 128-131.
- Romero-Aroca P, Baget-Bernaldiz M, Fernandez-Ballart J, Plana-