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【应用研究】

内界膜剥除联合玻璃体内注射曲安奈德治疗继发性黄斑前膜的疗效观察

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Efficacy of retinal inner limiting membrane peeling and intravitreal injection of triamcinolone acetate for secondary epiretinal membrane

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【Key words】 intravitreal injection; triamcinolone acetate; secondary epiretinal membrane; retinal inner limiting membrane peeling

【Abstract】 Objective To observe the efficacy of retinal inner limiting membrane peeling and intravitreal injection of triamcinolone acetate for secondary epiretinal membrane. **Methods** Forty-two patients (42 eyes) with secondary epiretinal membrane underwent vitreoretinal surgery in our hospital from June 2011 to June 2015 were retrospectively studied. All patients underwent pars plana vitrectomy + epiretinal membrane peeling + retinal inner limiting membrane peeling and intravitreal injection of triamcinolone acetate. The follow-up time was from 3.0 months to 18.0 months, averaged (8.3 ± 2.4) months. Postoperative best corrected visual acuity (BCVA), macular morphology and complications were observed. **Results** At the final follow-up, BCVA improved in 30 eyes, unchanged in 8 eyes and decreased in 4 eyes, and there was significant difference compared with that before operation ($t = 3.145, P = 0.000$). The preoperative and postoperative thickness of neuroepithelium in the central macular area were (315.62 ± 132.12) μm and (233.42 ± 146.32) μm, and there was significant difference ($t = 4.322, P = 0.000$). Small amount of retinal hemorrhage happened in 6 eyes after operation, vitreous hemorrhage was in 1 eye, transient high intraocular pressure was in 6 eyes; Preperipheral retinal hole occurred in 3 eyes, which were cured by laser treatment and C₃F₈ tamponade. **Conclusion** Intravitreal injection of triamcinolone acetate can reduce the macular edema, decrease the reoccurrence of epiretinal membrane and improve the visual acuity. The retinal inner limiting membrane peeling in secondary macular epiretinal membrane surgery can release the macular pucker, lifting and traction on the fovea, improve the metabolism of macular local, is conducive to the recovery of macular function.

【中图分类号】 R774.5

【关键词】 玻璃体内注射;曲安奈德;继发性黄斑前膜;内界膜剥除

【摘要】 **目的** 观察内界膜剥除联合玻璃体内注射曲安奈德治疗继发性黄斑前膜的疗效。**方法** 回顾性分析我院2011年6

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月至2015年6月因继发性黄斑前膜需行玻璃体视网膜手术者42例42眼,所有患者均行标准的23 G经睫状体平坦部的三通道玻璃体切割+黄斑前膜剥除+视网膜内界膜剥除+玻璃体内注射曲安奈德术,术后随访3.0~18.0(8.3 ± 2.4)个月,对手术前后最佳矫正视力、黄斑形态及手术并发症等进行观察。**结果** 随访期末,最佳矫正视力提高者30眼,不变者8眼,下降者4眼;术后最佳矫正视力与术前相比,差异有统计学意义($t=3.145, P=0.000$)。黄斑中心神经上皮层厚度术前为(315.62 ± 132.12) μm ,术后为(233.42 ± 146.32) μm ,手术前后相比差异有统计学意义($t=4.322, P=0.000$)。术后视网膜少许出血6眼,玻璃体积血1眼,一过性高眼压6眼;3眼周边牵引性小裂孔,激光治疗后,行玻璃体内 C_3F_8 填充,视网膜在位。**结论** 玻璃体内注射曲安奈德可以加速黄斑水肿消退,降低黄斑前膜复发,促进视功能恢复。视网膜内界膜剥除在继发性黄斑前膜手术中可以松解黄斑区视网膜皱褶,解除对黄斑中心凹的牵引,改善黄斑区局部的代谢,有利于黄斑功能的恢复。

黄斑前膜是由于不同原因致某些细胞在黄斑及其附近视网膜内表面增生而形成的纤维细胞膜。该膜的收缩可引起黄斑区视网膜的解剖结构紊乱和视功能损害,是影响视力的一种常见原因。根据病因分为两类:特发性黄斑前膜和继发性黄斑前膜。继发性黄斑前膜常见病因:眼外伤、玻璃体炎症、血管病变、眼内手术等^[1-2]。本研究收集我院42例(42眼)继发性黄斑前膜患者,采用黄斑前膜剥除、视网膜内界膜剥离联合玻璃体内注射曲安奈德手术方法治疗,取得较好疗效,现报告如下。

1 资料与方法

1.1 一般资料 2011年6月至2015年6月于我院眼科因继发性黄斑前膜而行手术治疗者共42例(42眼),其中男24例(24眼),女18例(18眼);年龄48~72(52.78 ± 3.14)岁;继发于眼外伤者10例,玻璃体炎症后继发者14例,血管病变者8例,眼内手术者6例,视网膜激光光凝术者4例。入选标准:(1)间接检眼镜及OCT检查明确诊断为黄斑前膜;(2)有明确的眼部外伤、玻璃体炎症、血管性病变、眼内手术或视网膜激光光凝病史;(3)在原有疾病之后产生黄斑前膜;(4)术前未明确黄斑前膜病因,术中发现眼底已经存在明确血管病变者亦入选本研究。

1.2 曲安奈德的准备 取国产曲安奈德(昆明积大制药, $40 \text{ mg} \cdot \text{mL}^{-1}$)乳白色混悬液,反复摇匀,分别抽取0.1 mL(约4 mg)于玻璃体手术中和手术完成后行玻璃体内注射。

1.3 手术方法 所有患者均接受标准经睫状体平坦部三通道23G玻璃体切割手术(均行闭合式玻璃体切割术),手术由同一医师完成。晶状体混浊者先行白内障超声乳化手术,玻璃体切割手术完成后植入人工晶状体。术中玻璃体内注入曲安奈德混悬液染色,以便充分切割玻璃体,剥除黄斑前膜和后极部玻璃体后皮质并彻底清除,玻璃体内注入浓度为 $0.1 \text{ mg} \cdot \text{mL}^{-1}$ 吲哚青绿0.5 mL染色,小心剥除3~4个视盘直径范围的内界膜,顶压检查周边视网膜,发现3眼行玻璃体切割时牵出视网膜裂孔,孔周行激光光凝治疗,并行玻璃体内填充体积分数12%~20% C_3F_8 气体,缝合巩膜切口,自颞上方玻璃体切割口向玻璃体内注入准备好的曲安奈德0.1 mL,注气者术后俯卧位2周。

1.4 术后随访 术后随访3.0~18.0(8.3 ± 2.4)个月。以末次随访时间为疗效判断时间点,观察患者最佳矫正视力(best corrected visual acuity, BCVA)、黄斑中心神经上皮层厚度及术后并发症情况。采用VisanteOCT(1000, Carl Zeiss Meditec, Inc, 德国)仪器自带的工具测量黄斑中心神经上皮层厚度^[3]。

1.5 统计学处理 应用SPSS 14.0统计学软件行统计学分析。手术前后BCVA、黄斑中心神经上皮层厚度比较行配对 t 检验。以 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 手术前后视力 随访期末,BCVA提高者30眼,不变者8眼,下降者4眼;患者术前BCVA为(0.50 ± 0.31) logMAR,随访期末为(0.71 ± 0.23) logMAR,手术前后相比差异有统计学意义($t=3.145, P=0.000$)。

2.2 手术前后黄斑中心神经上皮层厚度 术前黄斑中心神经上皮层厚度为156.00~681.50(315.62 ± 132.12) μm ,随访期末为130.00~451.12(233.42 ± 146.32) μm ,手术前后相比差异有统计学意义($t=4.322, P=0.000$)。

2.3 并发症 术后视网膜少许出血者6眼,未给予特殊治疗,术后4周左右自行吸收;术后玻璃体积血者1眼,积血量较小,1周后自行吸收;3眼玻璃体填充 C_3F_8 者术后2~3个月完全吸收,视网膜裂孔闭合,视网膜在位,早期由于俯卧位,曲安奈德黏附于晶状体后囊,随着时间延长逐渐吸收;6眼出现一过性高眼压,局部用药后眼压降至正常。全部患眼未出现远期高眼压。随访中未发现黄斑前膜复发者。

3 讨论

黄斑前膜为视网膜前膜的一种,MESSMER等^[4]将视网膜前膜分为两类:一类为单一的视网膜前膜,主要由内界膜破孔移行到视网膜表面的胶质细胞增殖形成一薄层带细胞的膜状结构;另一类除了胶质细胞,还可以同时或分别出现多层纤维细胞、巨噬细胞、纤维星形细胞,甚至视网膜色素上皮细胞等。

继发性黄斑前膜病因虽然复杂多样,但是主要病因为:外伤、视网膜脱离术后(冷凝、电凝、巩膜外加压术后)、视网膜血管病变、视网膜激光光凝术后等。黄斑前膜对视力的影响取决于前膜对黄斑区视

网膜的牵引及黄斑区视网膜是否出现囊样改变等。黄斑前膜剥除、内界膜剥除可以解除对黄斑区视网膜等的牵引,玻璃体内注射曲安奈德则可以减轻黄斑区的囊样改变,因此本研究采取内界膜剥除联合玻璃体内注射曲安奈德的方法治疗继发性黄斑前膜,手术效果理想。

糖皮质激素可以抑制炎症物质的释放,收缩脉络膜血管,降低脉络膜血管通透性,抑制新生血管和成纤维细胞的增生,延缓增生性玻璃体视网膜病变的进程^[5]。曲安奈德是一种长效的糖皮质激素,目前已广泛应用于玻璃体手术中,其既作为一种染色剂,又是抗炎药物,在治疗视网膜血管阻塞、糖尿病性视网膜病变引起的黄斑水肿中有显著效果。术毕玻璃体内注入曲安奈德,可以起到长效的抗炎作用,降低黄斑前膜的复发率,抑制玻璃体视网膜细胞增殖,减轻术后炎症反应以及加快术后黄斑水肿消退,促进视功能恢复^[6]。许静等^[7]应用玻璃体内注射雷珠单抗达到此目的,但是雷珠单抗价格昂贵,加重了患者的经济负担,相比而言,曲安奈德更易被患者接受。玻璃体内注射易引起高眼压并发症,本研究中术后6眼出现高眼压,经对症处理后眼压均恢复正常。

视网膜内界膜是一层1~2 μm厚的无结构的均质膜,由视盘边缘向周边覆盖整个视网膜表面。黄斑区的视网膜内界膜较厚,并与玻璃体皮质牢固粘连;但在黄斑中心凹又很薄,且缺乏细胞纤维脚板附贴。在病理情况下,视网膜内界膜又可成为色素细胞及纤维细胞增殖的支架。这就为视网膜内界膜在玻璃体黄斑界面的病变发生发展中的重要作用提供了一定的组织学依据,尤其是牵引性黄斑病变,如黄斑前膜、黄斑裂孔、黄斑囊肿等^[8]。在继发性黄斑前膜手术中,剥除内界膜不但可以达到整体松解黄斑处视网膜皱褶,解除对黄斑中心凹牵引的目的,还可以清除紧密附着在黄斑前视网膜表面的炎性物质,改善黄斑区局部的代谢。剥离损伤还可以适度刺激Müller细胞等胶质细胞重新再生,有利于促进黄斑解剖结构等的恢复^[9-10]。

国内有些学者在内界膜剥除后行玻璃体内填充C₃F₈,认为可以缩短剥膜术后视网膜恢复正常结构的时间。玻璃体内填充C₃F₈常见的并发症为加速白内障的发展,本研究中视网膜未发现裂孔者术后均未行气体填充,术后黄斑中心神经上皮层厚度均变薄,视力提高。3眼因出现视网膜裂孔行体积分数12%~20% C₃F₈填充后视网膜裂孔闭合,视网膜在

位。为了减少术后并发症,以不填充气体为好。

本研究虽然取得了较好的疗效,但也存在一定不足,如本研究入选例数较少,可能造成结果的偏差;仅仅使用视力、OCT检查结果等作为视功能的评价指标,过于单一(国内外有报道联合多焦视网膜电图^[11]、微视野^[12]等更为精细的检查方法评估黄斑功能)等,有待进一步完善。

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