

玻璃体腔注射曲安奈德联合激光治疗视网膜黄斑分支静脉阻塞黄斑水肿

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Clinical observation of intravitreal injection of triamcinolone acetonide combined with laser photocoagulation for macular edema of macular branch retinal occlusion

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Abstract

• AIM: To evaluate the efficacy of intravitreal injection of triamcinolone acetonide (TA) combined with laser photocoagulation for macular edema of macular branch retinal occlusion (MBRVO).

• METHODS: A total of 164 patients (164 eyes) with MBRVO which was diagnosed by examination of visual acuity, intraocular pressure, ocular fundus, fundus color photography, fundus fluorescein angiography (FFA) and optic coherence tomography (OCT) were underwent intravitreal injection of TA combined with laser photocoagulation. There were 90 males (90 eyes) and 74 females (74 eyes) in the patients aged from 20 to 80 years old, average 59.7 years old. The best corrected visual acuity (BCVA) was 0.02-0.6, and logMAR was 0.778 ± 0.347 . There was obvious dye pooling of fluorescein in macular examined by FFA. The average of retinal thickness of macular foveal was $442.41 \pm 74.07 \mu\text{m}$. Intravitreal injection with 4mg TA was performed under surface anesthesia, and laser photocoagulation was performed after 2 weeks. Patients were followed up 1, 3, 6 months after the treatment.

• RESULTS: The mean logMAR BCVA was significantly

improved to 0.49 ± 0.34 , 0.44 ± 0.34 and 0.43 ± 0.33 1 month and 3, 6 months after treatment respectively, and the differences was statistically significant compared with before. 135 eyes (82.3%) had an improved visual acuity, and the BCVA increased 2 lines (0.2 logMAR vision) or better in 103 eyes (62.8%) 6 months after treatment. FFA showed that dye pooling of fluorescein in macular zone had lowed or disappeared 1 month, 3 and 6 months after treatment. OCT demonstrated that retinal thickness of macular foveal decreased to $253.99 \pm 63.99 \mu\text{m}$ at 1 month, decreased to $239.84 \pm 53.74 \mu\text{m}$ at 3 months, and decreased to $234.55 \pm 51.32 \mu\text{m}$ at 6 months. And the differences were statistically significant compared with before. There were remarkable resolution of the central retinal edema in 147 eyes (89.6%) 6 months after therapy. pseudo-endophthalmitis occurred in 4 eyes 3 days after Intravitreal injection with triamcinolone acetonide. Patients was observed and cured until the laser treatment was viable. 3 months after treatment, intraocular pressure was higher than normal in 11 eyes, and they were totally restored to normal after medication.

• CONCLUSION: Intravitreal injection with triamcinolone acetonide (TA) combined with laser photocoagulation is a promising therapeutic method for macular edema of macular branch retinal occlusion.

• KEYWORDS: triamcinolone acetonide; laser photocoagulation; macular edema

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摘要

目的: 观察玻璃体腔注射曲安奈德 (triamcinolone acetonide, TA) 联合激光治疗视网膜黄斑分支静脉阻塞黄斑水肿的临床疗效。

方法: 将经过视力、眼压、眼底检查、眼底彩色照相、荧光素眼底血管造影 (FFA)、光相干断层扫描 (OCT) 检查确诊的 164 例 164 眼视网膜黄斑分支静脉阻塞伴黄斑水肿患者纳入治疗。男 90 例 90 眼, 女 74 例 74 眼, 年龄 20~80 (平均 59.7) 岁。矫正视力 0.02~0.6, logMAR 视力为 0.778 ± 0.347 。病程 3d~2a。平均眼压 15.22mmHg ($1 \text{mmHg} = 0.133 \text{kPa}$)。FFA 检查黄斑区晚期均有荧光素蓄积; OCT 示平均黄斑中心凹视网膜厚度 $442.41 \pm 74.07 \mu\text{m}$ 。表面麻醉下给予 4mg TA 玻璃体腔注射, 2wk 后进行黄斑区光

凝治疗。治疗后第1,3,6mo随访。

结果:164例患者治疗后1,3,6mo的平均logMAR最佳矫正视力(BCVA)分别提高至 0.49 ± 0.34 , 0.44 ± 0.34 , 0.43 ± 0.33 ,与治疗前比较,差异均有统计学意义。治疗后6mo视力提高135眼(82.3%),其中视力提高 ≥ 2 者103眼(62.8%);治疗后1,3,6mo FFA检查黄斑区晚期荧光素蓄积均有减轻或消失,治疗后1,3,6mo,OCT检查平均黄斑中心凹视网膜厚度分别为 $253.99 \pm 63.99\mu\text{m}$, $239.84 \pm 53.74\mu\text{m}$, $234.55 \pm 51.32\mu\text{m}$;与治疗前比较,差异均有统计学意义。治疗后6mo,黄斑水肿改善者147眼(89.6%)。玻璃体腔注药后3d之内有4眼发生假性眼内炎,观察及治疗后恢复至可行激光治疗,治疗后3mo时有11眼眼压高于正常,用药后均恢复至正常范围。

结论:玻璃体腔注射TA联合激光治疗视网膜黄斑分支静脉阻塞引起的黄斑水肿疗效较好,明显提高视力,改善视功能,促使黄斑水肿消退或减轻。

关键词:曲安奈德;激光;黄斑水肿

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0 引言

黄斑水肿是视网膜黄斑分支静脉阻塞视力下降的主要原因,而长期黄斑水肿会引起视细胞凋亡、视网膜纤维化而导致永久性视力丧失,因此,尽早解除黄斑水肿对此类患者极其重要,以往的黄斑格栅光凝对视力提高不显著,而近年来单纯玻璃体腔注射曲安奈德(triamcinolone acetate,TA)又常有复发。我们就将玻璃体腔注射TA和激光二者联合起来治疗视网膜黄斑分支静脉阻塞引起的黄斑水肿患者,现报告如下。

1 对象和方法

1.1 对象 回顾性分析2006-08/2007-11在山东中医药大学眼科中心接受玻璃体腔注射TA联合激光治疗的164例164眼视网膜黄斑分支静脉阻塞伴黄斑水肿患者的临床资料。所有患者均诉有视力下降,视物变形和视物有遮挡感。经过视力、眼压、眼底、荧光素眼底血管造影(FFA)、光学相干断层扫描(OCT)检查确诊。从患者出现自觉症状到确诊时的病程为4d~2a,患者视力以矫正视力表示,转换为logMAR视力表的等值进行统计学分析。患者中男90例90眼,女74例74眼,年龄20~80(平均59.7)岁。病程<1wk者31眼,<1mo者63眼,1~12mo者51眼,>1a者19眼。矫正视力0.02~0.6,其中<0.1者32眼,0.1~0.5者107眼,>0.5者25眼,平均logMAR视力为 0.778 ± 0.347 。平均眼压 15.22mmHg ($1\text{mmHg} = 0.133\text{kPa}$)。FFA检查示颞上分支静脉阻塞85眼,颞下分支静脉阻塞79眼,黄斑区晚期均有不同程度的荧光素蓄积。OCT检查,164眼均有黄斑区水肿,平均黄斑中心凹视网膜厚度为 $442.41 \pm 74.07\mu\text{m}$ 。

1.2 方法 所有患者均在诊断明确,充分了解治疗利弊基础上自愿签署知情同意书。玻璃体腔注射前3d用左氧氟

沙星眼液点眼,4次/d。注射前5min用地卡因滴眼液行表面麻醉,在手术室按常规眼科手术要求消毒铺巾,置开睑器,用27号针头的一次性1mL空针管抽取40mg/mL的TA混悬液0.1mL,于颞下角膜缘后4mm处进针行玻璃体内注射。注射完毕后,即刻检查眼压,如眼压高于正常即行前房穿刺至眼压正常。检查视力手动存在,涂氧氟沙星眼膏并包眼。2wk后行黄斑区激光治疗,激光前5min用地卡因滴眼液行表面麻醉,置全网膜接触镜,应用多波长氩激光机(美国Coherent公司),选用黄光(波长568nm),激光能量90~120mW,光斑大小为50~100 μm ,曝光时间0.1~0.2s,根据FFA和OCT检查结果行格栅状或点射状光凝。联合治疗后第1,3,6mo进行随访,随访时间6~12(平均8.3)mo,采用与治疗前相同的方法和设备,对患者进行视力、眼前节、眼底和FFA及OCT检查。

统计学分析:用SPSS 11.0软件,配对t检验对治疗后各时间点的平均视力、黄斑中心凹视网膜厚度检测值进行统计学分析。

2 结果

2.1 术后眼部情况 164例患者治疗后1,3,6mo的平均logMAR BCVA均有提高,与治疗前比较,差异均有显著统计学意义。治疗后6mo视力提高者135眼(82.3%),其中视力提高 ≥ 2 行者103眼(62.8%);治疗后1,3,6mo FFA检查黄斑区晚期荧光素蓄积均减轻或消失;OCT检查平均黄斑中心凹视网膜厚度较治疗前均有下降,差异均有显著统计学意义(表1)。治疗后6mo,黄斑水肿改善者147眼(89.6%)。

2.2 术后并发症 玻璃体腔注药后发生结膜下出血12眼(7.32%),3d之内有4眼(2.44%)发生假性眼内炎,观察及治疗后恢复至可行激光治疗,治疗后1mo时有11眼(6.71%)高血压,用药后均恢复至正常范围。所有治疗眼均未发生视网膜脱离、玻璃体积血和眼内炎等与注射有关的并发症。

3 讨论

视网膜黄斑分支静脉阻塞,由于病变临近或已涉及中心凹,并且有毛细血管扩张和渗透性改变,故黄斑水肿比较常见,导致视功能受到损害。黄斑水肿的治疗方法有激光光凝、玻璃体切除手术和药物治疗等,但这些方法都存在不同程度的存在疗效和视力预后不肯定、操作难度和风险较大等问题。TA作为糖皮质激素的混悬液被用于玻璃体内注射治疗黄斑水肿国内外已有较多成功的报道^[1,2]。然而,单纯玻璃体腔注射TA,短期安全有效,但不能持久,需要反复注射,这势必会增加眼内感染等并发症的机会^[3,4],同样,如果单独行激光治疗,由于黄斑区水肿,则功率相对大,损伤大且黄斑区的水肿恢复较慢,很难恢复理想的效果。Parodi等^[5]的前瞻性研究发现,与自然病程对照组相比,激光光凝治疗在提高视力和黄斑水肿吸收方面无显著性差异因此我们将玻璃体腔注射TA和激光二者联合治疗本病,先行玻璃体腔注射TA,注射后2wk,黄斑中心凹厚度趋于正常,此时行激光治疗,用的能量低,损伤小,有利于远期的视力恢复,且无中心暗点形成,使病情迅速稳定,减少重复注射次数,降低并发症的发生几率。在研究中,我们还发现,发病时间越早进行联合治疗,效果越

表 1 比较术前及术后 1,3,6mo logMAR BCVA 和视网膜厚度 ($\bar{x} \pm s$)

	术前	术后 ^b		
		1mo	3mo	6mo
LogMAR BCVA	0.78 ± 0.35	0.49 ± 0.34	0.44 ± 0.34	0.43 ± 0.33
视网膜厚度(μm)	442.41 ± 74.07	253.99 ± 63.99	239.84 ± 53.74	234.55 ± 51.32

^bP < 0.01 vs 术前

好,因为正常黄斑中央有一无血管区,其外缘中心凹周围区有一微血管拱环存在,它是黄斑区血-视网膜内屏障,具有转运功能和屏障作用,选择性摄取黄斑视网膜所需的营养物质和排出代谢产物,完成组织细胞物质交换。对维持黄斑视功能有特殊作用。而视网膜黄斑分支静脉阻塞后此内屏障遭到破坏,血管通透性异常,发生渗漏,黄斑出现水肿。早期和急性期黄斑区微血管循环障碍多为功能性、可逆性。本研究中发病 1wk 前来就诊者 31 眼,治疗后 1mo 视力 > 0.5 者达 25 眼(80.6%),且有 24 眼一直稳定至 1a 以上,而最终视力 < 0.1 者 12 眼,均为发病 1a 以上就诊者(63.1%)。当然,就玻璃体腔注射 TA 来说,其并发症仍不容忽视。具体有两方面,一是与注射操作有关的并发症,如视网膜脱离、玻璃体积血和眼内炎等,另一方面是与注射药物有关的并发症如继发性青光眼,原发性白内障,假性眼内炎结晶沉积物,视网膜毒性等。我们的经验是注射均在层流手术室进行,按照严格规范的无菌操作,

则并发症的几率会降到最低,且治疗后定期的随访很重要,尤其是治疗 1mo 以后眼压的监测。

综上,玻璃体腔注射 TA 联合激光治疗视网膜黄斑分支静脉阻塞引起的黄斑水肿疗效好,明显提高视力,改善视功能,缩短病程,促使黄斑水肿消退或减轻,值得临床应用。

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