

【应用研究】

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1.2.2 房水病毒检测方法 房水和血清 CMV IgG 抗体检测采用维润赛润生物技术(深圳)有限公司酶联免疫吸附法试剂盒;房水中检出 CMV IgG 抗体采用房水/血清白蛋白比值校正。对于房水检出 CMV IgG 且房水/血清校正比值大于 ROC 曲线最佳界值

时则判定眼内 CMV IgG 抗体生成。房水病毒 DNA 检测中 DNA 提取采用凯杰公司 FlexiGene DNA 抽提试剂盒和凯杰公司人 CMV 核酸扩增荧光检测试剂盒。CMV 检测阳性判断标准为^[5]:眼内 CMV IgG 抗体生成和(或)DNA 检测结果阳性。

1.2.3 抗病毒滴眼液配制方法 更昔洛韦针干粉剂 0.25 g 加入 2.5 mL 无菌注射用水并混匀,抽取 1.25 mL 更昔洛韦溶液并加入 5 mL 玻璃酸钠滴眼液中,配制获得 125 mg/6.25 mL 更昔洛韦滴眼液,浓度为 $20 \text{ g} \cdot \text{L}^{-1}$ 。

1.3 观察指标 记录羊脂状角膜后沉着物(keratic precipitates, KP)分布情况、钱币状 KP 及房水闪辉发生例数,计算百分比;记录激素使用率和激素用量;记录眼压、降眼压药物使用率及使用种类。

1.4 统计学处理 数据分析采用 SPSS 24.0 统计学软件;其中正态分布计量资料采用 t 检验,以 $\bar{x} \pm s$ 表示;偏态分布计量资料比较采用 Mann-Whitney U 检验,以中位数(四分位间距)表示;计数资料采用 χ^2 检验和秩和检验,以%表示。检验水准: $\alpha = 0.05$ 。

2 结果

2.1 患者治疗前后 KP 和房水闪辉分布情况比较

患者治疗后羊脂状 KP、钱币状 KP 及房水闪辉比例分别为 52.05%、2.74%、0.00%,均显著低于治疗前的 87.67%、26.03%、12.33%(均为 $P < 0.05$)。

2.2 患者治疗前后激素使用率和激素用量比较

患者治疗后激素使用率和激素用量分别为 47.95%、每天 0(0~3)次,均显著低于治疗前的 90.41%、每天 3(0~4)次(均为 $P < 0.05$)。

2.3 患者治疗前后眼压、降眼压药物使用率及使用种类比较

患者治疗后眼压、降眼压药物使用率及使用种类分别为 $(15.97 \pm 4.23) \text{ mmHg}$ ($1 \text{ kPa} = 7.5 \text{ mmHg}$)、41.10%、每天 0(0~3)种,均显著少于治疗前的 $(26.34 \pm 5.10) \text{ mmHg}$ 、72.60%、每天 2(0~3)种(均为 $P < 0.05$)。

3 讨论

青光眼睫状体炎综合征初次发病多具有自限性,通过给予激素和降眼压药治疗后多能有效控制;但随着病程延长和发作频率增加,极易出现激素依赖情况^[6]。医学界对于青光眼睫状体炎综合征发病机制尚未完全阐明,大部分学者支持病毒感染假说。国外学者通过角膜共聚焦检测证实,青光眼睫状体炎综合征病变部位朗格汉斯细胞数量和角膜细胞激活程度与单纯疱疹病毒性角膜炎相近,进一步提示该病发生可能与病毒感染密切相关^[7]。另一项报道则提示^[8],CMV 前葡萄膜炎患者中 75% 以上临床表现符合青光眼睫状体炎综合征,同时 CMV 阳性青光眼睫状体炎综合征患者占总数 50% 以上,且经抗病毒治疗后病情均获得一定程度缓解。本研究对患者

临床资料进行分析,其中激素依赖比例 49.32%,且 73 例患者中合并虹膜萎缩和白内障分别达 70 眼、68 眼;患者在经 $20 \text{ g} \cdot \text{L}^{-1}$ 更昔洛韦滴眼液治疗后症状均获得明显好转,患者治疗后羊脂状 KP、钱币状 KP、房水闪辉比例、眼压、激素使用率、激素用量、降眼压药物使用率及使用种类均显著低于治疗前(均为 $P < 0.05$),进一步证实抗病毒在合并 CMV 感染的青光眼睫状体炎综合征患者治疗方面的良好效果,与以往学者报道结果相符^[8]。

更昔洛韦是目前临床首选抗 CMV 药物,给药方式包括口服、玻璃体内注射及局部滴眼等。有研究报道显示^[9],更昔洛韦口服能够有效降低炎症反应水平,控制眼压升高,总有效率可达 60%~70%;而一项有关更昔洛韦玻璃体内注射治疗青光眼睫状体炎综合征的报道显示^[10],以 $2 \text{ mg}/0.05 \text{ mL}$ 作为初始剂量给药并在后续给予口服维持更昔洛韦亦可获得良好效果。但需要注意的是,更昔洛韦全身用药可能诱发白细胞减少,而玻璃体内注射作为有创操作存在较高感染风险^[11]。更昔洛韦市售滴眼液浓度约为 $1 \text{ g} \cdot \text{L}^{-1}$,凝胶浓度为 $1.5 \text{ g} \cdot \text{L}^{-1}$,这两种浓度用于青光眼睫状体炎综合征治疗均被证实病情控制效果欠佳^[12]。国外学者报道显示^[13], $20 \text{ g} \cdot \text{L}^{-1}$ 更昔洛韦滴眼液用于青光眼睫状体炎综合征患者治疗,复发风险更低,角膜内皮细胞丢失率和眼压控制效果更佳。本研究结果亦支持以上观点,即 $20 \text{ g} \cdot \text{L}^{-1}$ 更昔洛韦滴眼液局部滴眼可有效降低炎症反应和眼压,且激素用量和降眼压药物使用亦明显减少。

无法行房水 CMV 感染检测时,通过观察青光眼睫状体炎综合征患者临床表现亦可初步判定有无存在 CMV 感染可能性:(1)虹膜脱色素,往往呈弥漫、虫噬样脱色素改变,CMV 感染患者中虹膜脱色素比例超过 90%^[14];(2)钱币状 KP,即中小 KP 排列成类钱币圆形,CMV 阳性预测值可达 91%^[15];(3)角膜内皮丢失多,这与 CMV 感染青光眼睫状体炎综合征患者易合并角膜内皮炎有关;(4)发作时眼压升高,部分学者报道 CMV 未感染患者较感染患者眼压升高 $10 \sim 15 \text{ mmHg}$ ^[16]。

综上所述,抗病毒药物滴眼用于 CMV 阳性青光眼睫状体炎综合征患者可显著提高炎症反应控制效果,降低眼压,减少激素和降眼压药物使用,具有良好的临床应用价值。但因纳入样本量少、随访时间短、未设立房水 CMV 阴性的及房水 CMV 阳性但未行局部抗病毒治疗对照组等因素制约,故所得结论仍有待更深入的研究确证。

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Influence of antiviral eye drops on inflammatory response and intraocular pressure of cytomegalovirus-positive patients with Possner-Schlossman syndrome

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[Abstract] Objective To investigate the influence of antiviral eye drops on inflammatory response and intraocular pressure of cytomegalovirus (CMV)-positive patients with Possner-Schlossman syndrome (PSS). **Methods** Totally 73 eyes in 73 CMV-positive patients with PSS were selected in our hospital from April 2015 to October 2018, and treated with 20 g · L⁻¹ Ganciclovir Eye Drops. Keratic precipitates (KP) distribution, aqueous flare distribution, hormone used rate, hormone dosage, intraocular pressure levels, used rate and types of ocular hypotensive agents were compared before and after treatment. **Results** The ratios of mutton-fat KP, nummular KP and aqueous flare were 52.05%, 2.74% and 0.00% after treatment, all of which were respectively lower than 87.67%, 26.03% and 12.33% before treatment, and statistical differences were observed (all $P < 0.05$). The hormone used rate and hormone dosage were 47.95% and 0 (0-3) times/day after treatment, and both of which were significantly lower than 90.41% and 3 (0-4) times/day before treatment, and there were statistical differences (all $P < 0.05$). The intraocular pressure level, used rate and types of ocular hypotensive agents were (15.97 ± 4.23) mmHg, 41.10% and 0 (0-3) after treatment, all of which respectively lower than (26.34 ± 5.10) mmHg, 72.60% and 2 (0-3) before treatment, and statistical differences were found (all $P < 0.05$). **Conclusion** Antiviral eye drops can efficiently improve the control effects of inflammatory reaction, reduce intraocular pressure levels and decrease the use of hormones and antihypertensive drugs in the treatment of CMV-positive patients with PSS that has a good clinical value.

[Key words] antiviral drugs; cytomegalovirus; Possner-Schlossman syndrome; inflammatory response; intraocular pressure