

颗粒栓塞子宫动脉,暂时阻断妊娠囊的大部分血供来源,使附着在子宫切口的绒毛在短时间内迅速发生变性、坏死,可获得迅速杀胚作用,双侧子宫动脉栓塞可有效地控制切口妊娠手术中的出血量,安全性好,并发症少,操作简单,为保守治疗提供了必要条件,可避免行全子宫切除,保留患者的生育功能<sup>[4,5]</sup>。同时应用宫腔镜的优势,将宫腔内的情况清晰地显示于监视屏幕上,可了解妊娠物的形态大小,其与剖宫产切口的关系并可看到切口情况而行定位刮宫,避免了盲目刮宫可能引起大出血、原瘢痕裂开、子宫穿孔的风险。同时清宫后可再次镜检,能明确清宫是否彻底,减少了再次手术的概率,它是诊断宫腔内病变的金标准,术中利用B超监护减少了子宫穿孔的发生<sup>[6,7]</sup>。

#### 参考文献

1 Seow KW, Huang LW, Lin YH, et al. Cesarean scar pregnancy tis-

sues inmanagement [J]. Ultrasound Obstet Gynecol, 2004, 23: 247 - 253

- 2 单莹,范光升,金力,等.剖宫产后子宫瘢痕妊娠13例临床分析[J].中国实用妇科与产科杂志,2006,22:131
- 3 赖毓冕,叶明,张秋实,等.甲氨蝶呤全身用药成功治疗剖宫产子宫瘢痕处妊娠[J].中华实用诊断与治疗杂志,2008,23(3):275 - 276
- 4 钱朝霞,李群英,徐文英,等.子宫动脉栓塞在宫颈或切口妊娠人工流产手术前的作用[J].中国医学计算机成像杂志,2006,12:200
- 5 MarxM, Wack JP, Baker EL, et al. Ovarian protection by occlusion of uteroovarian collateral vessels before uterine fibroid embolization [J]. Vasc Interv Radiol, 2003, 14:1329
- 6 程春霞,薛敏,徐大宝.宫腔镜诊治宫角妊娠13例临床分析[J].实用妇产科杂志,2009,25(6):377
- 7 马万增,王秋宇,杨静.宫腔镜在剖宫产后切口妊娠治疗中的应用[J].中国煤炭工业医学杂志,2008,11:1700

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## 联合激光手术治疗原发性闭角型青光眼临床观察

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**摘要 目的** 观察联合激光(氪激光+Nd:YAG激光)治疗原发性闭角型青光眼的疗效及并发症。**方法** 对77例108眼有适应证的患者,先用氪绿激光行周边虹膜成形术,然后在拟行周边切孔处击射虹膜,最后用YAG激光进行周边虹膜切除术,对患者治疗前后的周边前房深度、前房角、眼压、视野及周边虹膜形态进行详细的对比观察,患者随访1~5年。**结果** 所有患者治疗后周边前房深度均明显加深,静态前房角镜检查小梁网可见范围增宽。手术前后视力、视野及眼底无明显变化,除有短暂眼压升高及虹膜炎症反应外无其他严重并发症。**结论** 联合激光手术治疗原发性闭角型青光眼是一种安全有效的治疗方法,保存患者视功能。

**关键词** 闭角型青光眼 激光 周边虹膜成形术 虹膜切除术

**Clinical Observation on Combined Laser Surgery Treatment for Primary Angle-closure Glaucoma.** Hou Zhanquan, Su Jinliang, Yang Guifang, Wang Xiuli, Liu Shujuan. Department of Ophthalmology. The Daqing People's Hospital, Heilongjiang 163316, China

**Abstract Objective** To observe the effects and complications of combined laser technique for treating primary angle-closure glaucoma. **Methods** On 108 eyes of 77 patients with indications, Kr green laser peripheral iridoplasty with Nd: YAG peripheral iridectomy was performed. The inferior peripheral anterior chamber depth, anterior chamber angle, the configuration of peripheral iris and intraocular pressure were observed carefully. The postoperative follow-up ranged from 1 to 5 years. **Results** The results showed that in all these cases, the peripheral anterior chamber depth was increased, the anterior chamber angle was widened. Gonioscope and trabecular meshwork could be visualized widely in static state. There were no severe postoperative complications except increased transient IOP and iritis reaction. **Conclusion** The combined laser technique is an ideal method for the treatment of primary angle-closure glaucoma. It can retain patients' vision.

**Key words** Angle-closure glaucoma; Laser; Iridectomy; Iridoplasty

青光眼是主要的致盲性眼病之一,我国以闭角型青光眼为主。单纯激光周边虹膜切除术对急性原发性闭角型青光眼临床前期、先兆期、间歇期有着很好的疗效,预防了原发性闭角型青光眼的急性发作,但并发症较多。首先我们用氪绿激光对原发性闭角型青光眼行周边虹膜成形术,然后用氪绿激光联合 Nd: YAG 激光行周边虹膜切除术,明显减少了并发症,取得了良好的效果,保存了患者的视功能,现将观察结果报告如下。

### 资料与方法

1. 一般资料:2004 年 1 月~2006 年 12 月我科确诊的原发闭角型青光眼患者 77 例 108 眼,其中男性 27 例 38 眼,女性 50 例 70 眼,年龄 30~79 岁,平均 55 岁。其中急性闭角型青光眼 62 例 93 眼(临床前期 50 眼、先兆期 18 眼、间歇期 25 眼),慢性闭角型青光眼 15 例 15 眼,暗室试验阳性。全部病例术前常规检查视力、眼压(非接触式眼压计)、眼底、前房角和电脑视野。

2. 治疗方法:治疗前 30min,应用 0.5% 硝酸毛果芸香碱滴眼液每 10min 滴眼 1 次,共 3 次。然后用 0.4% 盐酸奥布卡因滴眼液滴眼行表面麻醉。用美国科以人公司生产的多波长激光治疗机:首先用氪绿激光行周边虹膜成形术,激光参数:能量 200~400mW,时间 0.2~0.4s,光斑 300~400μm。以甲基纤维素作为耦合剂安放 Goldmann 3 面镜,通过中央凹面镜进行虹膜根部 360°光凝,治疗过程中随时调节激光参数,以虹膜出现明显脱色素斑及产生显著收缩反应,而且无虹膜烧焦、气泡形成和色素逸出为度。虹膜周边前粘连严重处激光斑可以稍微密集些。光凝 24~36 点,平均 30 点。从 59° 镜面中当时可观察到房角加宽,然后用氪绿激光能量 200~300mW,光斑 200μm,时间 0.2s。于右眼 10 点位或左眼 2 点位以距瞳孔缘 3/4 处为中心击射 6~8 点,成一椭圆形非穿透光凝区,使局部虹膜变薄。然后再放入周边虹膜切除术专用接触镜,甲基纤维素做耦合剂,用 Nd: YAG 激光于基地部行周边虹膜切除术,能量 4~7mJ,击穿虹膜,透切孔周围疏松的虹膜组织用低能量激光切割修复,透切孔呈椭圆形,这样术后瞳孔散大时也不易闭合。术后应用地塞米松滴眼液 1~2 滴每日 4 次滴眼,双氯芬酸纳滴眼液 1~2 滴每日 4 次滴眼,共 7 天,乙酰唑胺片 250 毫克/次每日 2 次口服共 2 天。分别于术后第 2、7 天,1、3、6 个月复查检查视力、眼压,用裂隙灯显微镜检查外眼的一般情况。术后半年以及每年均重复上述各项检查及电脑视野检查,术后随访 1~5 年。

### 结 果

本组病例 108 眼全部一次透切成功,手术成功率 100%。术后随访 1~5 年,所有激光透切孔均通畅。激光术后周边前房深度明显增加,前房角镜检查可见前房角增宽,静态下小梁网可见范围增大,部分粘连的房角重新开放。术后患者视力、眼底及视野检查结

果均无明显变化,不用降眼压药物眼压一直保持正常,未见青光眼急性发作者。术后均出现不同程度虹膜炎性反应,2 天后自行消退,短暂的眼压升高 16 眼,经对症处理后降至正常,虹膜出血 15 眼,24h 自行吸收。

### 讨 论

青光眼是我国常见的致盲性眼病之一,我国以原发性闭角型青光眼为主。对本组 108 眼,首先采用氪绿激光行 360°周边虹膜成形术,然后用氪绿激光联合 Nd: YAG 激光行周边虹膜切除术。过去氩激光周边虹膜成形术主要用于治疗药物治疗效果不佳的原发性闭角型青光眼,现认为它对各种类型青光眼具有一定疗效<sup>[1]</sup>。激光术后周边前房深度明显增加,前房角镜检查可见前房角增宽,静态下小梁网可见范围增大,部分粘连的房角重新开放,从而恢复正常房水外流通路。是由于氪绿激光射击虹膜根部,虹膜强烈收缩,张力增加,使根部虹膜展平,离开小梁网致使房角被拉开,周边前房明显加深,其次虹膜面激光射击形成的硬性结痂也阻止了瞳孔散大时虹膜在根部的堆积。Weiss 等<sup>[2]</sup>认为氩激光房角成形术的效果与房角关闭建立的时间有关,时间久房角粘连得较牢固,施行房角成形术的效果将会受到影响,时间越早,效果越好。所以早发现、早诊断、早治疗,将取得很好的结果。

本组病例用多波长氪绿激光联合 YAG 激光行周边虹膜切除术,既吸收了各自的优点,又克服了各自的缺点,减少了并发症,从而获得较佳效果。而过去,对单纯性瞳孔阻滞型原发性闭角型青光眼多采用单纯氩激光或 YAG 激光行周边虹膜切除术进行治疗,只用氩激光,术中切口难以击穿,术后易发生虹膜炎性反应,而且切口容易闭塞等并发症;仅用 YAG 激光术中及术后又容易出血。有报道显示<sup>[3]</sup>,采用多波长氪激光联合 Nd: YAG 激光行虹膜周边切除术比单纯 YAG 或氩激光手术有明显优越性。体现在每种激光所用能量小;出血概率减少;色素播散少,所以大大降低了手术风险,并且减少了并发症的出现。根据我们的临床观察,发现本组 77 例 108 眼,有 15 眼出现了少量前房出血(13.89%),24h 自行吸收,常见主要的并发症是短暂的眼压升高,可能是激光破坏了血-房水屏障,促进前列腺素的释放,房水增多导致继发性眼压升高<sup>[4]</sup>,同时组织碎屑及受热变性蛋白暂时滞留于小梁网,使房水外流通道阻力增加<sup>[5]</sup>,尽管前

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- (1) : 25 - 47
- 9 Powis G, Mustacich D, Coon A. The role of the redox protein thioredoxin in cell growth and cancer. *Free Radic Biol Med*, 2000, 29: 312 - 322
- 10 Mukherjee A, Martin SG. The thioredoxin system: a key target in tumour and endothelial cells. *Br J Radiol*, 2008, 81(1) : 57 - 68
- 11 Elias S. J. Arner, Arne Holmgren . The Thioredoxin System in Cancer. *Seminars in Cancer Biology*, 2006, 16(6) : 420 - 426
- 12 Wen J, Zheng B, Hu Y, et al. Comparative proteomic analysis of the esophageal squamous carcinoma cell line EC109 and its multi - drug resistant subline EC109/CDDP. *Int J Oncol*, 2010, 36(1) : 265 - 274
- 13 Sun Y, Rigas B. The thioredoxin system mediates redox - induced cell death in human colon cancer cells: implications for the mechanism of action of anticancer agents. *Cancer Res*, 2008, 68(20) : 8269 - 8277
- 14 Noike T, Miwa S, Soeda J, et al. Increased expression of thioredoxin - 1, vascular endothelial growth factor, and redox factor - 1 is associated with poor prognosis in patients with liver metastasis from colorectal cancer. *Hum Pathol*, 2008, 39(2) : 201 - 208
- 15 Grogan TM, Fenoglio - Prieser C, Zeheb R, et al. Thioredoxin, a putative oncogene product, is overexpressed in gastric carcinoma and associated with increased proliferation and increased cell survival. *Hum Pathol*, 2000, 31(4) : 475 - 481
- 16 Cunnea P, Fernandes AP, Capitanio A, et al. Increased expression of specific thioredoxin family proteins; a pilot immunohistochemical study on human hepatocellular carcinoma. *Int J Immunopathol Pharmacol*, 2007, 20(1) : 17 - 24
- 17 Yan C, Shieh B, Reigan P, et al. Ross D. Potent activity of indolequinones against human pancreatic cancer: identification of thioredoxin reductase as a potential target. *Mol Pharmacol*, 2009, 76(1) : 163 - 172
- 18 王建军, 黄东胜, 刘军伟, 等. 硫氧化还原蛋白在胰腺癌中的表达及意义. 中华肝胆外科杂志, 2009, 11(5) : 1007 - 8118
- 19 Yoon BI, Kim YH, Yi JY, et al. Expression of thioredoxin during progression of hamster and human cholangiocarcinoma. *Cancer Sci*, 2009, 101(1) : 281 - 288
- 20 Csiki I, Yanagisawa K, Haruki N, et al. Thioredoxin - 1 modulates transcription of cyclooxygenase - 2 via hypoxia - inducible factor - 1alpha in non - small cell lung cancer. *Cancer Res*, 2006, 66(1) : 143 - 150
- 21 Berggren M, Gallegos A, Gasdaska JR, et al. Thioredoxin and thioredoxin reductase gene expression in human tumors and cell lines and the effects of serum stimulation and hypoxia. *Anticancer Res*, 2006, 16 : 3459 - 3466
- 22 Gasdaska PY, Oblong JE. Thiredoxin is identical to that of the autocrine growth factor human adult T cell derived factor (ADF) : Thioredoxin mRNA is elevated in some human tumors. *Biochim Biophys Acta*, 2005, 1218 : 292 - 296
- 23 贾佳, 赵荣瑞, 刘慧荣. 硫氧还蛋白与凋亡的关系. 山西医科大学学报, 2008, 39(4) : 381 - 384
- 24 Nakamura H, Bai J, Nishinaka Y, et al. Expression of thioredoxin and glutaredoxin, redox - regulating proteins, in pancreatic cancer. *Cancer Detect Prev*, 2000, 24(1) : 53 - 60
- 25 Mau BL, Pow G. Mechanism based inhibition of thioredoxin reductase by antitumor quinoid compounds. *Biochem Pharmacol*, 2004, 68 : 1613 - 1620
- 26 Powis G, Kirkpatrick DL. Thioredoxin signaling as a target for cancer therapy. *Curr Opin Pharmacol*, 2007, 7(4) : 392 - 397
- 27 Pennington JD, Jacobs KM, Sun L, et al. Thioredoxin and thioredoxin reductase as redox - sensitive molecular targets for cancer therapy. *Curr Pharm Des*, 2007, 13(33) : 3368 - 3377
- 28 Biaglow JE, Miller RA. The thioredoxin reductase/thioredoxin system: novel redox targets for cancer therapy. *Cancer Biol Ther*, 2005, 4(1) : 6 - 13
- 29 Baker AF, Dragovich T, Tate WR, et al. The antitumor thioredoxin - 1 inhibitor PX212 (12methylpropyl 22imidazolyl disulfide) decreases thioredoxin - 1 and VEGF levels in cancer patient plasma. *J Lab Clin Med*, 2006, 147 (2) : 83 - 90

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房角被重新开放,但仍有部分患者眼压升高,本组 16 眼出现了不同程度眼压升高,经常规对症治疗后 24h 眼压降至正常。联合激光手术发生虹膜出血和色素播散的比例明显低于单用 YAG 激光手术。联合激光虹膜周边切除术是最有效的解除瞳孔阻滞,预防原发性闭角型青光眼急性发作的主要手段。本组病例全部一次透切成功,随访 1 ~ 5 年,透切孔均通畅,无急性青光眼发作,未用降眼压药物眼压一直保持正常,视野无进行性损害。

由于联合激光手术操作安全、并发症少,费用低,门诊完成等优点,而且使其各自优点得以充分发挥,优势互补,协同作用,是种安全有效的治疗方法,保存了患者的视功能,是治疗原发性闭角型青光眼的首

选。

## 参考文献

- Lai JS, Tham CC, Lam DS. Limited argon laser peripheral iridoplasty as immediate closure glaucoma preliminary study [J]. *Eye*, 1999, 13(1) : 26 - 30
- Weiss HS, Shingleton BJ, Goods SM, et al. Argon laser gonioplasty in the treatment of angle - closure glaucoma [J]. *Am Ophthalmol*, 1992, 114 : 14 - 18
- Tony HO, Richard F. Sequential argon - YAG laser iridotomies in dark irides [J]. *Br J Ophthalmol*, 1992, 76 : 329 - 331
- Unger WG. Response of the human eye to laser irradiation of the iris. *Br J Ophthalmol*, 1977, 61(2) : 148 - 153
- Yamamoto T, Shirto S, Kitazawa Y. Argon laser iridotomy in angle - closure glaucoma [J]. *Jpn J Ophthalmol*, 1982, 26(4) : 387 - 396

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