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## · 病例报告 ·

## 飞秒激光小切口透镜取出术后异物致弥漫性角膜炎诊疗一例

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**A case of diffuse keratitis caused by foreign body after small-incision lenticule extraction procedure**

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扫码观看  
手术视频

患者,女,30岁,因右眼视物模糊,偶伴眼胀1个月余于2019年12月4日就诊于华西医院眼科。患者自述3个月前于外院行双眼飞秒激光小切口透镜取出术(small-incision lenticule extraction, SMILE),术后遵医嘱常规用药点眼,术后2个月因出现右眼视物模糊给予醋酸泼尼松龙滴眼液、玻璃酸钠滴眼液和溴莫尼定噻吗洛尔滴眼液点眼,症状无明显改善。眼科检查:左眼裸眼视力1.2,矫正视力 $-0.50\text{ DC} \times 10^\circ = 1.2^{-1}$ ,眼压16.0 mmHg(1 mmHg=0.133 kPa),眼前段检查未见异常;右眼裸眼视力0.8,矫正视力 $-0.50\text{ DS}/-0.75\text{ DC} \times 10^\circ = 1.2^{-1}$ ,眼压15.6 mmHg,结膜轻度充血,角膜颞上方可见长约3 mm的弧形角膜切口痕迹,12:00位角膜缘与瞳孔缘间的角膜层间以及5:00和6:00位瞳孔缘角膜层间可见3根细小丝状物,6:00位角膜缘与瞳孔缘间的角膜层间见一点状物,其周围轻度雾状混浊(图1),患眼前房深度正常,房水清,瞳孔圆,直径约3 mm,

瞳孔对光反射灵敏。诊断:右眼弥漫性角膜炎;右眼角膜云翳;双眼SMILE术后。右眼采用左氧氟沙星滴眼液和玻璃酸钠滴眼液点眼,每天4次。患者用药后4 d于表面麻醉下接受右眼角膜层间异物取出术,术中用针头分离原角膜切口,从原切口放入透镜分离器分离囊袋前后面;用冲洗针头向囊袋内注入适量无菌平衡盐溶液,明确异物位置后用无菌平衡盐溶液反复冲洗并用冲洗针头小心分离异物,在此过程中将冲洗针头在角膜表面适当用力以协助异物冲洗;冲洗角膜及结膜,拭干并仔细对合角膜切口(视频1)。术后第1天,患者自觉视物模糊明显好转,右眼裸眼视力1.2,矫正视力 $-0.50\text{ DC} \times 180^\circ = 1.2$ ,眼压16.0 mmHg,结膜轻度充血,原异物所在位置角膜层间轻度片状雾状混浊,较术前范围稍扩大;左眼视力及眼前段检查无明显改变,眼压14.0 mmHg。右眼采用妥布霉素地塞米松滴眼液、左氧氟沙星滴眼液和玻璃酸钠滴眼液点眼,每天4次。术后第



图 1 患眼异物取出术前裂隙灯显微镜照相 A:右眼弥散光下照相见结膜轻度充血,前房深度正常,瞳孔圆,直径约为 3 mm B:右眼裂隙光下照相见角膜层间 4 处异物(箭头),异物周围轻度雾状混浊 图 2 患眼异物取出术后 1 d 和 3 d 裂隙灯显微镜照相 A:术后 1 d 裂隙光下右眼可见原异物处角膜层间轻度雾状混浊,较术前范围扩大 B:术后 3 d 裂隙光下可见角膜层间混浊与术后 1 d 比较无明显变化 图 3 患眼异物取出术后 2 周裂隙灯显微镜照相 可见角膜层间轻度雾状混浊较前减轻且范围缩小

3 天右眼裸眼视力未变化,眼压 15.2 mmHg,结膜无充血,角膜层间轻度雾状混浊(图 2)。治疗方法同前。术后 2 周检查右眼裸眼视力 1.0,矫正视力  $-0.50 \text{ DC} \times 180^\circ = 1.2$ ,眼压 20.0 mmHg,角膜无水肿,层间轻度雾状混浊,较前明显好转(图 3);左眼视力 1.5,眼压 12.0 mmHg。右眼采用玻璃酸钠滴眼液点眼,每天 4 次;采用盐酸卡替洛尔滴眼液点眼,每天 2 次。术后 1 个月患者自觉双眼无不适症状,角膜层间仍轻度雾状混浊,嘱定期复查。

讨论:SMILE 具有术后恢复快、角膜生物力学稳定、安全、有效等优点,临床应用广泛,但也会出现负压吸引丢失、不透明气泡层、角膜基质透镜分离困难<sup>[1-3]</sup>以及术后弥漫性板层角膜炎、角膜层间异物残留、欠矫和过矫等情况<sup>[4-6]</sup>。虽然术后并发症的发生率很低,但仍不容忽视,应定期复查。SMILE 术后感染性角膜炎较为常见,主要表现为眼痛、畏光、流泪、分泌物增多等,可见角膜浸润、溃疡甚至穿孔等<sup>[7-9]</sup>。本例患者右眼角膜层间残留多个白色细丝状异物,考虑为医用棉签上的细小棉絮,异物周围角膜轻度雾状混浊,结膜轻度充血,患者仅有视物模糊偶伴眼胀感,症状和体征均较轻,故推测为由异物引起的弥漫性角膜炎。

SMILE 术后持续存留角膜层间异物者鲜有报道,其原因可能为 SMILE 手术技术已较成熟,术中规范操作可避免角膜层间异物残留;同时检查者应仔细检查患者术中和术后眼部情况,及时发现角膜层间异物残留并及时进行手术或药物治疗。本例患者术后角膜层间异物持续 3 个月,早期未引起相应症状,术后 2 个月开始出现右眼视物模糊,糖皮质激素类滴眼液持续点眼数周后症状仍未改善。患眼因异物引起反复的角膜炎反应,造成角膜层间雾状混浊,且因异物靠近角膜中央而影响视力,故需行异物取出术,辅以药物治疗。术后第 1 天检查发现,原异物处角膜层间雾状混浊较术前范围稍扩大,系手术操作引起的角膜轻度损伤,给予糖皮质激素类滴眼液行抗炎治疗。此外,患者右眼因长期使用糖皮质激素类滴眼液引起眼压轻度升高,局部应用降眼压药物治疗后恢复正常。

角膜屈光手术后层间残留的异物有细小棉絮、脂质、细小金属碎屑等<sup>[5]</sup>,与手术操作中所用器械上黏附的异物带入角膜层间有关,术中冲洗方法不当也会增加角膜层间异物的风险。提示我们手术期间应尽量避免手术器械接触除手术部位以外的其他物体,避免使用破损的器械,避免外部冲洗液流入角膜囊袋内。在手术结束前应再次仔细检查角膜组织,若发现角膜层间异物残留应及时冲洗或取出,术后发现异物者应根据患者的症状及异物位置、大小和性质行异物取出或随访观察。对异

物存留引起角膜炎反应或异物位置靠近角膜中央而影响视力者应尽早手术清除;对未引起炎症反应或异物位置偏周边而不影响视力者则应随访观察<sup>[4,10]</sup>,同时也应向患者强调术后定期复查的必要性和重要性。

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