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论著

鼻内镜下下鼻道外侧壁长方形开窗治疗 真菌性上颌窦炎的临床效果

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摘要: **目的** 探讨鼻内镜下下鼻道外侧壁长方形开窗治疗真菌性上颌窦炎(FMS)的临床效果。**方法** 选取2015年1月—2019年12月该院收治的FMS患者200例作为研究对象。观察组($n=100$)采用鼻内镜下下鼻道外侧壁长方形开窗术治疗, 对照组($n=100$)于鼻内镜下采用泪前隐窝入路治疗。观察两组患者手术时间、术中出血量及并发症发生率等情况。**结果** 观察组术中出血量64~100 mL, 平均 (78.5 ± 8.4) mL, 手术时间17~43 min, 平均 (29.5 ± 5.8) min, 术后随访1年, 1例术侧空鼻综合征, 治愈率为99.0%。对照组术中出血量62~108 mL, 平均 (81.4 ± 8.5) mL, 手术时间18~51 min, 平均 (32.4 ± 6.5) min, 术后随访1年, 1例溢泪, 1例术侧鼻腔粘连, 1例术侧鼻腔狭窄, 2例术侧空鼻综合征, 治愈率为98.0%。两组患者术中出血量和手术时间比较, 差异均有统计学意义($P < 0.05$); 两组患者并发症发生率比较, 差异无统计学意义($P > 0.05$)。**结论** 鼻内镜下下鼻道外侧壁长方形开窗治疗FMS, 手术时间短, 出血量少, 且操作简单、安全有效, 值得临床推广应用。

关键词: 真菌性上颌窦炎; 鼻内镜; 泪前隐窝; 下鼻道外侧壁长方形开窗术; 并发症

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Clinical study of fungal maxillary sinusitis treat with rectangular fenestration in lateral wall of nasal passage under nasal endoscope

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Abstract: Objective To investigate the effective value of treating fungal maxillary sinusitis with rectangular fenestration in the lateral wall of nasal passage under nasal endoscope. **Methods** 200 cases of fungal maxillary sinusitis from January 2015 to December 2019 were selected as the research subjects. The observation group ($n=100$) was treated with rectangular fenestration at the lateralis wall of nasal passage under nasal endoscope, and the control group ($n=100$) was treated with prelacrimal recess approach under nasal endoscope. The operation time, blood loss and complications were observed. **Results** The treatment group: the intraoperative bleeding was 64~100 mL, with an average of (78.5 ± 8.4) mL, the operation time was 17~43 min, with an average of (29.5 ± 5.8) min. The patients were followed up for one year, one case of empty nose syndrome, and the cure rate of the treatment group was 99.0%. Control group: the intraoperative blood loss was 62~108 mL, with an average of

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(81.4 ± 8.5) mL, the operation time was 18~51 min, with an average of (32.4 ± 6.5) min. The patients were followed up for one year, and the complications were: lacrimal effusion (1 case), nasal adhesions (1 case), nasal stenosis (1 case), empty nose syndrome (2 cases), the cure rate was 98.0%. There were significant differences in the intraoperative bleeding volume and the average operation time between the two groups ($P < 0.05$). There was no significant difference in complications rate between the two groups ($P > 0.05$). **Conclusion** Endoscopic rectangular fenestration of the lateral wall of the inferior nasal passage in the treatment of fungal maxillary sinusitis is simple with short time and less bleeding, safe and effective, which is worthy of clinical application.

Keywords: fungal maxillary sinusitis; nasal endoscope; prelacrima recess; rectangle fenestration of lateralis wall of inferior nasal passage; complication

真菌性上颌窦炎 (fungal maxillary sinusitis, FMS) 发病原因很多,但确切病因不明,可能与体内体外环境变化、周围炎症刺激和抗菌药物长期应用等诸多内外因素有关。目前,常采用泪前隐窝入路治疗 FMS,但其具有手术时间较长和术中出血量较多的弊端。因此,本研究在常规泪前隐窝入路手术治疗的基础上,采用鼻内镜下下鼻道外侧壁长方形开窗治疗 FMS,取得了一定的效果。现报道如下:

1 资料与方法

1.1 一般资料

选取2015年1月—2019年12月联勤保障部队第九八八医院行鼻内镜下下鼻道外侧壁长方形开窗治疗的FMS患者100例作为观察组,另选鼻内镜下泪前隐窝入路^[1-4]治疗的FMS患者100例作为对照组,所有患者均经病理证实为单侧病变。观察组中,男30例,女70例,年龄32~68岁,平均(50.4 ± 28.1)岁;对照组中,男38例,女62例,年龄35~69岁,平均(51.7 ± 28.4)岁。两组患者一般资料比较,差异无统计学意义($P > 0.05$),具有可比性。见表1。本研究为临床研究,经医院伦理委员会论证审批,且患者知情同意并签协议。

1.2 手术方法

1.2.1 准备工作 采用0°、30°和70°硬性鼻内镜^[3](厂家:德国STORZ公司,型号:KS822)等。鼻窦手术常规体位,消毒、铺巾,收缩鼻腔黏膜^[1-4]。

1.2.2 观察组 采用鼻内镜下下鼻道外侧壁长方形开窗术。在0°鼻内镜直视下,经中鼻道可见上颌窦自然窦口处有霉菌团块和脓液溢出,以吸引器吸出霉菌团块和脓液,并保留自然窦口。下鼻甲骨折内移,距下鼻甲前缘约1.0~1.5 cm,靠近下鼻道外侧

表1 两组患者一般资料比较

Table 1 Comparison of general data between the two groups

组别	性别/例		年龄/岁
	男	女	
观察组(n = 100)	30	70	50.4 ± 28.1
对照组(n = 100)	38	62	51.7 ± 28.4
t/χ ² 值	1.43		0.33 [†]
P值	0.232		0.745

注:†为t值

壁上颌窦骨质最薄弱处,注意避开鼻泪管开口,用中号弯钳(18.0 cm)戳穿进入上颌窦内,可见部分霉菌团块及脓液溢出,以吸引器吸出,向前用咬骨钳(厂家:德国STORZ公司,型号:662121)配合反咬钳(厂家:桐庐斯科医疗器械有限公司,型号:69-1035)咬除戳穿处周围残余骨质,用0°动力刀头(厂家:美敦力公司,型号:1884004)吸切残余黏膜,完成上颌窦下鼻道开窗,窗口前后径约为20 mm,上下径约为15 mm,略呈长方形(图1和2)。再用弯吸引器头配合0°动力刀头,吸切上颌窦后外侧壁及后外侧壁与底壁、内侧壁交界处病变组织,用30°鼻内镜探查有无残留。在70°内镜下,以120°动力刀头(厂家:美敦力公司,型号:1883517)吸切上颌窦前壁、内侧壁及底壁交界处真菌团块及其他坏死组织。70°内镜探查窦腔内各处无残余后,以5%碳酸氢钠注射液500 mL彻底冲洗窦腔,用下鼻道膨胀海绵/纳吸棉压迫填塞止血,将下鼻甲外移即可^[3-4]。

1.2.3 对照组 采用泪前隐窝入路。行全身麻醉,

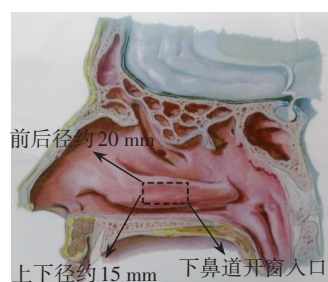


图1 鼻内镜下下鼻道外侧壁模拟切口

Fig.1 Simulated incision of lateralis wall of inferior nasal passage under nasal endoscope

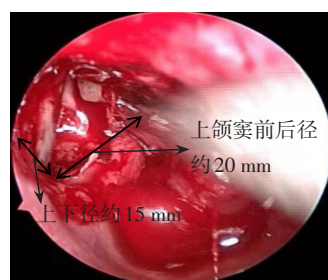


图2 鼻内镜下下鼻道外侧壁略呈长方形切口

Fig.2 Slightly rectangular incision on lateralis wall of inferior nasal passage under nasal endoscope

自下鼻甲前缘上方、下鼻甲附着鼻腔的外侧壁，从上往下切开，并切至鼻底处黏膜，刀口呈弧形，切至黏骨膜下，并顺骨面剥离至下鼻甲骨附着着的鼻腔外侧壁，剪断下鼻甲附着根部，顺根部剥离下鼻甲及鼻腔外侧壁黏膜至上颌窦窦口前缘，并向后下剥离至鼻泪管开口的周围，使黏膜游离，然后去除下鼻甲附着根部及上颌窦的内侧壁，找到骨性鼻泪管，并去除膜性鼻泪管周围骨质^[3-4]，使膜性鼻泪管游离出来，将其内移并显露上颌窦腔^[5]。取出窦腔内霉菌团块和其他分泌物，70°内镜下观察上颌窦上壁、前壁或前内侧壁下有无病变组织，并及时清除^[1-3, 6]。对于被侵犯的上颌窦上壁，病变清除后，原则上应根据上壁骨质破坏情况给予对症处理^[7]，上颌窦窦腔内病灶被清理干净后，可复位膜性鼻泪管-下鼻甲瓣，黏膜复位缝合固定2针，然后行下鼻道开窗（大小约10 mm × 10 mm），便于术后引流，术腔明胶海绵填塞，部分病变组织送病理检查。

1.3 疗效评定标准

1.3.1 治愈 上颌窦窦区无肿胀和压痛点，不伴头痛，眼球转动无障碍，无鼻塞鼻痛，鼻内镜下观察鼻

腔内无脓性分泌物，闻之无臭味，1年后复查鼻窦CT示鼻窦内未见霉菌复发病灶^[1-3]。

1.3.2 复发 上颌窦窦区肿胀，有压痛点，或伴头痛，眼球转动有障碍，鼻塞鼻痛症状仍然存在，鼻内镜下观察鼻腔内有脓性分泌物，闻之有臭味，1年后复查鼻窦CT示鼻窦内可见霉菌复发病灶^[3-4]。

1.4 统计学方法

选用SPSS 26.0软件进行统计学分析，计数资料以例（%）表示，行 χ^2 检验或Fisher确切概率法；计量资料以均数 ± 标准差（ $\bar{x} \pm s$ ）表示，行 t 检验。 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 两组患者治疗效果比较

术后随访1年，观察组治愈率为99.0%（99/100），与对照组的治愈率98.0%（98/100）比较，差异无统计学意义（ $P > 0.05$ ）。见表2。

表2 两组患者治疗效果比较

Table 2 Comparison of therapeutic effect between the two groups

组别	治愈/例	复发/例	治愈率例(%)
观察组($n = 100$)	99	1	99(99.0)
对照组($n = 100$)	98	2	98(98.0)
χ^2 值			0.34
P 值			0.578

2.2 两组患者手术情况比较

观察组术中出血量较对照组少，手术时间较对照组短，两组患者比较，差异均有统计学意义（ $P < 0.05$ ）。见表3。

2.3 两组患者并发症发生率比较

观察组并发症发生率为1.0%，对照组为5.0%，两组患者比较，差异无统计学意义（ $P > 0.05$ ）。见表4。

2.4 术后情况

所有病例术后面部无肿胀和疼痛，术后创面无明显渗血，仅个别病例有局部渗血，1~3 d后均自行止血。

表3 两组患者手术情况比较 ($\bar{x} \pm s$)Table 3 Comparison of operation conditions between the two groups ($\bar{x} \pm s$)

组别	术中出血量/mL	手术时间/min
观察组(n = 100)	78.5±8.4	29.5±5.8
对照组(n = 100)	81.4±8.5	32.4±6.5
t值	2.50	3.33
P值	0.015	0.001

表4 两组患者并发症发生率比较

Table 4 Comparison of the incidence of complications between the two groups

组别	溢泪/例	术侧鼻腔粘连/例	术侧鼻腔狭窄/例	空鼻综合征/例	总发生率 例(%)
观察组(n = 100)	0	0	0	1	1(1.0)
对照组(n = 100)	1	1	1	2	5(5.0)
P值					0.212

注:采用Fisher确切概率法

3 讨论

3.1 泪前隐窝入路

解剖上,上颌窦位于鼻腔的两侧,底在上方,尖在下方,如同倒置的不规则锥体。鼻内镜下经中鼻道开口难以窥及其全貌,尤其是上颌窦的前下及内侧壁^[8-9],若采用泪前隐窝入路^[3, 10-14],病变暴露相对清楚,经泪前隐窝入路可对上颌窦窦腔内的病变做彻底清除^[15-20],术后鼻腔外侧壁可保留。另外,可将鼻泪管充分游离出来,形成鼻泪管-下鼻甲黏膜瓣。从解剖学上可知,鼻泪管上下有两个口,其上口在鼻丘处与泪囊相接,下口在下鼻道前端并开口于下鼻道,上口和下口是鼻内镜手术中较易受损的部位^[21-23],这也是泪前隐窝入路最大的弊端和不足。因此,术者一定要熟练掌握解剖知识和手术技巧,以避免造成不必要的损伤和并发症^[24]。因为泪前隐窝手术入路需要解剖出鼻泪管-下鼻甲黏膜瓣,所以比较费时、费力,加之解剖鼻泪管-下鼻甲黏膜瓣时出血较多,视野不清,这均会给初学者带来不必要的麻烦和困惑。

3.2 鼻内镜下下鼻道外侧壁长方形开窗术

下鼻道开窗,窗口前后径为20 mm;上下径为15 mm,略呈长方形(靠近梨状孔,开窗过程中尽量避开位于下鼻道前端的鼻泪管下口)。在70°镜下,通过翻转70°镜面,可以看到上颌窦内各个窦腔区域,故能顺利处理上颌窦内各个角落的真菌团块^[4],

不留死角;其上下径为15 mm左右,鼻内镜活动范围大,能很好地显示和暴露泪前隐窝等处的病变真菌团块。且在距梨状孔后约1.0 cm处开窗,不易损伤鼻泪管和梨状孔,还可保留下鼻甲前端,不会使下鼻甲移位和摆动,较泪前隐窝处开窗有独特优势。鼻内镜下下鼻道外侧壁长方形开窗术就在下鼻道内的上颌窦内侧壁进行开窗,解剖层次比较简单,手术时间比较短。

3.3 FMS的治疗

FMS所形成的真菌团块往往附着在上颌窦的前下或前内侧壁,与上颌窦内壁黏膜粘连较紧,可形成钙化,单纯冲洗很难完全清除。采用泪前隐窝入路,虽然视野较清晰,但损伤较大,且手术时间长,术后并发症较多。因此,笔者采用鼻内镜下下鼻道外侧壁长方形开窗的方法,将真菌团块从黏膜上分离^[4],再强力冲洗,就可将之清除。为预防术后复发,保持术后上颌窦引流口的绝对开大和开放也很重要,只有保持足够大的引流口,才能改变窦腔内的低氧潮湿环境,方便术后的冲洗和灌药,真正改变真菌生长的环境和条件^[3-4]。

FMS多在患者较长时间使用激素、抗生素和免疫抑制剂等情况下发生,也与患者有无糖尿病、高血压和冠心病等基础性疾病有关。FMS一般为单侧上颌窦发病,很少波及双侧,且中年女性居多。FMS危害较大,患者多有失眠健忘、哮喘、消化系统功能障碍等

情况发生,有时还会出现精神萎靡、易疲劳、头痛及头晕、高热惊厥等症状。故预防 FMS 时,要做到以下几点:平时讲究鼻腔卫生,可用等渗盐水每天晨起冲洗鼻腔;喜欢游泳者下水时姿势要正确,尽量避免鼻孔浸在水中;擤鼻时方法要得当,尽量不要使鼻涕倒流。

综上所述,鼻内镜下下鼻道外侧壁长方形开窗治疗 FMS 的效果较佳,能明显缩短手术时间,减少术中出血量,术后不易复发^[25],且操作简单、安全有效,值得临床推广应用。

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