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胸腔镜肺楔形切除术与胸腔镜肺叶切除加纵隔淋巴结清扫术治疗 早期非小细胞肺癌患者的临床效果比较*

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摘要 目的: 对比分析胸腔镜肺楔形切除术与胸腔镜肺叶切除加纵隔淋巴结清扫术治疗早期非小细胞肺癌患者的临床效果。**方法:** 选择 2012 年 1 月~2016 年 12 月我院心胸外科收治的 70 例早期非小细胞肺癌患者, 将其随机分为两组。对照组采取胸腔镜肺叶切除加纵隔淋巴结清扫术治疗, 观察组采取胸腔镜肺楔形切除术治疗。比较两组的手术情况、术后情况、预后情况以及生存情况。**结果:** 观察组的术中出血量以及手术时间明显短于对照组($P<0.05$), 术后总引流量、留置引流管时间、术后住院时间以及 VAS 疼痛评分均明显低于对照组($P<0.05$)。观察组术后 1 年的手术切缘转移率为 0.00%(0/35), 死亡率为 11.43%(4/35), 均明显低于对照组($P<0.05$)。两组的局部复发率、复发率、胸腔内转移率、淋巴结转移率、远处转移率、肿瘤相关性死亡率相比无明显的差异($P>0.05$)。对照组患者的无病进展生存期为 8.24 个月(95% CI: 9.34~6.27), 中位生存期为 15.29 个月(95% CI: 12.14~21.78); 观察组患者的无疾病进展生存期为 11.26 个月(95% CI: 9.37~14.35), 中位生存期为 18.13 个月(95% CI: 15.24~22.36), 均明显长于对照组($P<0.05$)。**结论:** 胸腔镜肺楔形切除术治疗早期非小细胞肺癌患者的临床效果明显优于胸腔镜肺叶切除加纵隔淋巴结清扫术治疗。

关键词: 胸腔镜; 肺楔形切除术; 纵隔淋巴结清扫术; 非小细胞肺癌

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Comparison of the Clinical Efficacy of Thoracoscopic Pulmonary Wedge Resection and Thoracoscopic Lobectomy Plus Mediastinal Lymphadenectomy in the Treatment of Early Non-small Cell Lung Cancer*

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ABSTRACT Objective: To compare the clinical effects of thoracoscopic pulmonary wedge resection and thoracoscopic lobectomy plus mediastinal lymphadenectomy in the treatment of early non-small cell lung cancer. **Methods:** 70 cases of patients with early non-small cell lung cancer who were treated in our hospital from January 2012 to December 2016 were selected and randomly divided into two groups. The control group was given thoracoscopic lobectomy plus mediastinal lymph node dissection, while the observation group was given thoracoscopic wedge resection. The operative and post-operative condition, prognosis and survival of the two groups were compared. **Results:** The bleeding volume and operation time in the observation group were significantly shorter than those in the control group ($P<0.05$), and the total drainage volume, indwelling drainage tube time, hospitalization time and VAS pain score in the observation group were significantly lower than those in the control group ($P<0.05$). No margin metastasis was found in the observation group and the mortality rate was 11.43% (4/35) in the observation group at one year after operation, which were significantly lower than those in the control group ($P<0.05$). There was no significant difference in the local recurrence rate, recurrence rate, intrathoracic metastasis rate, lymph node metastasis rate, distant metastasis rate and cancer-related mortality rate between the two groups ($P>0.05$). The disease-free progressive survival period of the control group was 8.24 months (95% CI: 9.34-6.27), the median survival period was 15.29 months (95% CI: 12.14-21.78); the disease-free progressive survival period of the observation group was 11.26 months (95% CI: 9.37-14.35), and the median survival period was 18.13 months (95% CI: 15.24-22.36), which were significantly longer than that of the control group ($P<0.05$). **Conclusion:** Thoracoscopic pulmonary wedge resection is more effective than thoracoscopic lobectomy plus mediastinal lymphadenectomy in the treatment of early non-small cell lung cancer. Video-assisted thoracoscopic pulmonary wedge resection is an effective treatment for the early non-small cell lung cancer.

Key words: Thoracoscopy; Lung wedge resection; Mediastinal lymph node dissection; Non-small cell lung cancer

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前言

肺癌的发病率呈逐年迅速递增的趋势,非小细胞肺癌占肺癌总数的 85%以上^[1]。外科手术切除非小细胞肺癌患者的肿瘤病灶是临床上首选的方案,传统的开放性根治手术会切断肋骨以及胸壁上多块的大肌肉,在获取良好术野的同时,可产生严重的创伤,且开胸以及关胸操作会使手术时间大大延长,术中的出血量较多,术后患者术侧上肢较难上举,极易发生活动障碍^[2-4]。因此,目前主要采用微创手术疗法。

近年来,随着电视胸腔镜手术器械以及技术方法的迅速发展,有关胸腔镜手术治疗肺癌的研究不断增多,其具有创伤小、康复速度快、局部疼痛轻、外形美观以及效果显著等优点,逐渐成为治疗早期肺癌患者的标准手术方法^[5-6]。胸腔镜肺楔形切除术是一种新型的治疗非小细胞肺癌患者的手段,临床上虽有相关报道,但均仅研究术中出血量、手术时间等手术情况^[7]。鉴于此,本研究对非小细胞肺癌患者采取胸腔镜肺楔形切除术治疗后的术后情况、预后情况以及生存情况进行了分析,以探讨其临床应用价值。

1 资料与方法

1.1 一般资料

选择 2012 年 1 月~2016 年 12 月我院收治的 70 例早期非小细胞肺癌患者,纳入标准:入院后经胸部 CT 检查、支气管镜检查、X 线胸片和穿刺活检确诊为非小细胞肺癌,患者知情同意,且均未发生远处转移。排除标准:合并有心脑血管疾病、呼吸系统感染、胸膜增厚患者,精神疾病患者,以往使用过化疗以及肺部手术治疗的,免疫功能以及凝血功能异常患者,近 3 个月内采用免疫抑制剂或激素类药物进行治疗的患者。用抽签法将所有患者随机分为两组。观察组 35 例,男 19 例,女 16 例;年龄 51~84 岁,平均 (62.73 ± 13.59) 岁;肿瘤直径 1.6~4.9 cm,平均 (2.73 ± 0.92) cm;肿瘤部位:右肺下叶 10 例,右肺上叶 6 例,左肺下叶 8 例,左肺上叶 11 例;病理分型:鳞癌 3 例,腺癌 32 例;肺癌分型:周围型 23 例,中心型 12 例。对照组 35 例,男 20 例,女 15 例;年龄 50~85 岁,平均 (63.48 ± 12.74) 岁;肿瘤直径 1.6~4.9 cm,平均 (2.75 ± 0.94) cm;病理分型:鳞

癌 4 例,腺癌 31 例;肿瘤部位:右肺下叶 11 例,右肺上叶 7 例,左肺下叶 7 例,左肺上叶 10 例;肺癌分型:周围型 24 例,中心型 11 例。两组的年龄、肿瘤直径、病理分型等基线资料比较均无统计学差异,具有可比性($P>0.05$)。

1.2 手术方法

观察组:给予胸腔镜楔形切除术,体位采取健侧卧位,对非小细胞肺癌患者的双腔气管进行插管,采用全身麻醉,确保单肺处于通气状态。取患者腋中线的第 8 肋间或第 7 做一个长度约为 1.0 cm 的观察镜孔。放入探头观察是否出现胸膜粘连和胸水,然后在腋前线第 4 肋间或者 5 肋间做一个长度约为 4 cm 的观察镜孔。采取胸部 CT 检查联合器械或者手指触摸结合明确肿块的具体部位,在距离肿块边缘 2 cm 部位使用切割吻合器进行楔形切除。对照组:切口的选择方法与观察组相同,分别处理肺叶静脉和肺叶动脉,叶间裂和叶支气管,将肺叶完全切除,然后清扫患者的纵隔淋巴结。所有患者均未中转进行开胸手术。对于术前合并有严重肺气肿、肺质量比较差的非小细胞肺癌患者,在进行切割以及缝合时,加用管状的奈维补片,以降低术后漏气的发生率。

1.3 观察指标

① 手术情况:记录两组的术中出血量以及手术时间。② 术后情况:记录两组的术后总引流量、留置引流管时间、术后住院时间以及 VAS 疼痛评分。③ 预后情况:记录两组术后 1 年的局部复发率、复发率、手术切缘转移率、胸腔内转移率、淋巴结转移率、远处转移率、死亡率、存活率、肿瘤相关性死亡率。④ 生存情况:术后随访观察两组的无疾病进展生存期。

1.4 统计学分析

采用 SPSS21.0 进行统计学分析,计量资料以 $\bar{x} \pm s$ 表示,组间和组内对比用 t 检验,组间率的比较用 χ^2 检验,以 $P<0.05$ 为差异有统计学意义。

2 结果

2.1 两组的术中出血量以及手术时间比较

观察组的术中出血量以及手术时间明显低于对照组($P<0.05$),见表 1。

表 1 两组的术中出血量以及手术时间比较($\bar{x} \pm s$)

Table 1 Comparison of the intraoperative bleeding volume and operation time between the two groups ($\bar{x} \pm s$)

Groups	n	Intraoperative bleeding volume(ml)	Operation time(min)
Observation group	35	131.46 $\pm$ 17.38*	143.27 $\pm$ 21.56*
Control group	35	154.29 $\pm$ 16.43	172.89 $\pm$ 24.63

Note: Compared with the control group, * $P<0.05$.

2.2 两组术后情况比较

观察组的术后总引流量、留置引流管时间、术后住院时间以及 VAS 疼痛评分均明显低于对照组($P<0.05$),见表 2。

2.3 两组术后 1 年的病死率、转移率和复发率比较

观察组术后 1 年的手术切缘转移率为 0.00%(0/35),死亡

率为 11.43%(4/35),均明显低于对照组($P<0.05$)。两组的局部复发率、复发率、胸腔内转移率、淋巴结转移率、远处转移率、肿瘤相关性死亡率相比无明显的差异($P>0.05$),见表 3。

2.4 两组的无疾病进展生存期比较

两组术后均进行随访,随访时间为 5~24 个月,平均随访时

间(13.72± 2.49)个月。对照组患者的无病进展生存期为 8.24 个月 (95% CI: 9.34 ~ 6.27), 中位生存期为 15.29 个月 (95% CI: 12.14~21.78); 观察组患者的无疾病进展生存期为 11.26 个月 (95% CI: 9.37 ~ 14.35), 中位生存期为 18.13 个月 (95% CI: 15.24 ~ 22.36),均明显长于对照组($P<0.05$)。

表 2 两组术后总引流量、留置引流管时间、术后住院时间以及 VAS 疼痛评分比较($\bar{x}\pm s$)Table 2 Comparison of the total drainage volume, indwelling drainage tube time, hospitalization time and VAS pain score between the two groups($\bar{x}\pm s$)

Groups	N	Total drainage volume(ml)	Indwelling drainage tube time(d)	Hospitalization time(d)	Vas pain score(score)
Observation group	35	1042.37 ± 45.32*	4.69 ± 1.23*	6.24 ± 1.37*	3.42 ± 0.97*
Control group	35	1327.93 ± 36.58	6.07 ± 1.54	7.53 ± 1.42	4.75 ± 1.13

Note: Compared with the control group, * $P<0.05$.

表 3 两组术后 1 年的病死率、转移率和复发率比较[例(%)]

Table 3 Comparison of the mortality, metastasis and recurrence rate in one year after operation between the two groups [n(%)]

Groups	n	Local recurrence rate	Relapse rate	Surgical margin metastasis rate	Intrathoracic metastasis rate	Lymph node metastasis rate	Distant metastasis rate	Mortality	Survival rate	Tumor-related mortality
Observation group	35	2 (5.71)	6 (17.14)	0 (0.00) *	0 (0.00)	1 (2.86)	3 (8.57)	4 (11.43)*	31 (88.57)*	1 (2.86)
Control group	35	3 (8.57)	6 (17.14)	5 (14.29)	1 (2.86)	1 (2.86)	2 (5.71)	9 (25.71)	26 (74.29)	2 (5.71)

Note: Compared with the control group, * $P<0.05$.

3 讨论

肺癌作为一种心胸外科常见的呼吸道恶性肿瘤疾病,临床表现主要为咳嗽、咯血和胸痛等^[8]。在所有的恶性肿瘤中,肺癌导致的死亡率位居第一,日益成为严重影响居民生活质量及身心健康的一个公共卫生问题^[9-11]。近些年来,随着影像学技术及设备的飞速发展和进步,临床上可以更为有效、准确地对非小细胞肺癌患者进行早期诊断,继而通过早期采取医学干预以及手术治疗,使患者的生存率升高^[12-15]。传统的开胸手术创伤程度较大、术后恢复时间较长,因此已逐渐被胸腔镜微创手术所取代。胸腔镜技术的广泛应用可以有效地缓解非小细胞肺癌患者术后的疼痛,解决医源性创伤大的问题,尤其适用于机体耐受性较差和老年患者^[16-19]。

为了确保术后患者可以尽快恢复肺功能,多位研究学者主张采取局限性肺切除术,以最大限度地保存患者正常的肺组织、并且不会对肿瘤病灶的切除造成影响^[21-24]。胸腔镜肺楔形切除术作为一种局限性肺切除手术手段,可以最大限度地保留健康的肺组织,对患者肺功能的影响程度被降到了最低术后患者可以较好的提高生活质量以及恢复肺功能;减少手术操作对肺组织以及肿瘤组织的牵拉;由于胸腔镜肺楔形切除术的麻醉时间、手术时间和肺缺血再灌注时间均明显缩短,操作方法相对简单,可以降低术后肺部并发症的发生率^[25-28]。本研究结果表明胸腔镜肺楔形切除术可明显减少术中出血量,缩短手术时间,减少术后总引流量,缩短留置引流管时间、术后住院时间,降低 VAS 疼痛评分,降低术后 1 年的手术切缘转移率以及死亡率,并且可以延长早期非小细胞肺癌患者的无病进展生存期。但是临床上在实施胸腔镜肺楔形切除术时,应当严格把握手术的指征,术中的切除方案应按照每位患者肿瘤的位置、大小和术中胸膜粘连的程度进行有针对性的设计。有研究指出肿瘤过大患者开展胸腔镜肺楔形切除治疗会对患者剩余肺组织的通气循

环功能造成严重的不良影响,因此应在术中对肿瘤病灶的切除范围尽量进行控制,以最大程度地降低手术对剩余肺组织功能的影响^[29-32]。

综上所述,胸腔镜肺楔形切除术治疗早期非小细胞肺癌患者的临床效果明显优于胸腔镜肺叶切除加纵隔淋巴结清扫术治疗。

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