Early ambulation after laparoscopic partial hepatectomy for liver cancer

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【**Abstract**】**Objective:** To investigate the influence of early ambulation after laparoscopic partial hepatectomy for liver cancer. **Methods:** Liver cancer patients (n=80)admitted in our hospital from October 2020 to October 2022 were selected for this study. Randomized number table was used to divide the patients into two groups. The reference group (n=40)was treated with conventional laparotomy, and the experimental group (n=40)was treated with laparoscopic partial hepatectomy for liver cancer. Early ambulation after operation was compared. **Results:** The time of getting out of bed in the experimental group was shorter than that in the reference group (P. There was no significant difference in the incidence of complications between the two groups (P<0. 05). **Conclusion:** In the treatment of liver cancer patients, laparoscopic partial hepatectomy can effectively shorten the time for patients to get out of bed, exhaust, prolong their activity duration and walking distance, and relieve their pain, which can promote patients to get out of bed early after surgery.

【**Key words**】Laparoscopic partial hepatectomy for liver cancer;Liver cancer;Get out of bed early

Liver cancer is a common clinical disease that seriously threatens human life and health. At present, surgical resection of tumor has become an effective method for the treatment of liver cancer, including open hepatectomy and laparoscopic hepatectomy. Compared with traditional open hepatectomy, laparoscopic hepatectomy has great advantages such as less trauma and faster recovery. It has rapidly popularized the surgical field and has received increasing attention[1]. In recent years, with the concept of accelerated rehabilitation surgery widely applied in liver surgery, early post-operation ambulation has been recognized as the most basic and important lifting measure, which can not only promote the recovery of digestive, respiratory, motor and other system functions, but also reduce the occurrence of complications such as deep venous thrombosis in the lower limbs. However, there is no direct evidence that laparoscopic hepatectomy can help patients with liver cancer get out of bed early. Therefore, the patients with liver cancer (n=80)admitted to our hospital from October 2020 to October 2022 were selected as the study subjects. To explore the effect of early ambulation after laparoscopic partial hepatectomy for liver cancer. The results are detailed below.

1 Data and methods

1.1 Basic data

The patients with liver cancer (n=80)admitted to our hospital from October 2020 to October 2022 were selected for this study. According to the method of random number table, they were divided into two groups, the reference group (n=40)was treated with conventional laparotomy, and the experimental group (n=40)was

treated with laparoscopic partial hepatectomy for liver cancer. Among them, the number of male and female patients in the reference group was 19, 21, aged 46 to 69, with an average of (58. 76±2.35)years. The number of male and female patients in the experimental group was 22, 18 of whom were 47 to 68 years old, with an average age of (58. 45±2.56)years. There was no significant difference between the two groups, which did not conform to the statistical significance (P>0. 05). The above subjects are all aware of the purpose of this study and actively participate in this study.

1.2 Methods

1.2.1 Reference group

This group received conventional open surgery, and the nursing staff prepared surgical instruments to assist the patient to adjust to supine position, and took conventional general anesthesia. The chest of the patient is routinely disinfected, and then the surgical incision is carefully disinfected. The corresponding incision is made at the chest of the liver lesion location to find the focus of liver disease, and the chest is excised and washed with normal saline, and then the wound is sutured.

1.2.2 Experimental group

Laparoscopic partial hepatectomy was performed in this group. The nurse should prepare the medical equipment needed during the operation before the operation. First, let the patient lie flat on the operating bed, and then carry out routine general anesthesia for the patient. Thorax shall be strictly disinfected to prevent infection. At the lower edge of the liver region, make three small incisions, inject physiological saline to ensure the smooth airway, inject gas to establish pneumoperitoneum, make the negative pressure of the thoracic cavity reach 12~14mmHg, and place 10mm, 5mm and 15mm Trocar in the three incisions, respectively, perform laparoscopic hepatectomy at the focus, then wash the abdominal cavity with physiological saline, remove the negative pressure of the abdominal cavity, and finally suture the wound.

1.2.3 Get out of bed early after operation

After the operation, the patient simultaneously meets the following conditions: clear consciousness, stable vital signs, and no anesthesia complications;Abdominal drainage of blood fluid≤300 mL for 24 hours;The wound dressing is dry, without blood and fluid seepage;Muscle strength≥grade 3;Resting pain score<4. Get out of bed with the help of nursing staff and family members. During the activity, pay attention to the patient's vital signs and complaints of discomfort. If you have symptoms such as standing intolerance, fatigue, etc. , you should stop your activities immediately.

1.3 Effect standard

1.3. 1 Getting out of bed activities

Observe and compare the activity of getting out of bed between the two groups. Time standard for getting out of bed: the time from returning to the ward to leaving the hospital bed. Activity duration standard: the time from leaving the bed to standing up and returning to the hospital bed after the activity. The walking distance standard for getting out of bed: the distance from the start of leaving the standing point of the hospital bed to the end of the activity and returning to the standing point of the hospital bed.

1.3. 2 Anal exhaust time and active pain

Observe the anal exhaust time and active pain in the two groups. The active pain was evaluated with VAS scale. The higher the score, the more serious the pain was.

1.3. 3 Incidence rate of complications

Postoperative complications were observed in both groups, including falls and accidental extubation.

1.4 Statistical methods

The data obtained in the study were processed with SPSS 23. 0 software. (±s)is used to represent the measurement data, and t-test is used; (%)is used to represent counting data, and is tested with (x2). When the calculated P<0. 05, there is a significant difference between the objects for comparison.

2 Results

2.1 Comparison and analysis of the two groups'out-of-bed activities

In the experimental group, the time to get out of bed was (21.45±3. 42)h, the duration of activity was (28. 76±6. 53)min, and the walking distance was (56. 54±13. 23)m. Reference group: the time to get out of bed was (46. 54±3. 65)h, the duration of activity was (14. 54±4. 57)min, and the walking distance was (13. 46±11.56)m. T-test values: time to get out of bed (t=31.725, P=0. 001), activity duration (t=11.284, P=0. 001), walking distance (t=15. 508, P=0. 001). The time of getting out of bed in the experimental group was shorter than that in the reference group (P.

2.2 Comparative analysis of anal exhaust time and active pain between the two groups

In the experimental group, the anal exhaust time was (31.53±1 2.43)h, and the active pain was (1.45±0. 43)minutes. Reference group: anus exhaust time (49. 87±15. 43)h, active pain (2.69±0. 54)minutes. T-test value: anus exhaust time (t=5. 854, P=0. 001), active pain (t=11.361, P=0. 001). The anal exhaust time and active pain in the experimental group were lower than those in the reference group (P<0. 05).

2.3 Comparative analysis of the incidence of complications between the two groups

The incidence of complications in the experimental group was 7. 50% (3/40): 1 case fell and 2 cases were accidentally pulled out. The incidence of complications in the reference group was 10. 00% (4/40): 1 case fell and 3 cases were accidentally extubated. X2 test value: (x2=0. 157, P=0. 692). The incidence of complications in the experimental group was lower than that in the reference group (P

3. Discussion

In recent years, minimally invasive surgery has continued to develop. Laparoscopic partial hepatectomy for liver cancer is bound to play an important role in future liver surgery, promoting the innovation of nursing management and clinical nursing methods and the reform of postoperative rehabilitation nursing model. Relevant research shows that getting out of bed early after surgery is the main factor related to whether the goal of accelerated rehabilitation surgery can be achieved. Early out of bed activities can stimulate intestinal peristalsis, increase blood circulation, promote alveolar expansion, and promote the recovery of muscle, respiratory, digestive and other system functions, reduce postoperative complications, and promote the quality of life of patients[2].

The results of this study showed that the time of getting out of bed in the experimental group was shorter than that in the reference group (P. There was no significant difference in the incidence of complications between the two groups (P<0. 05). It is suggested that laparoscopic partial hepatectomy can reduce the patients'active pain, shorten their time of getting out of bed and anal exhaust, prolong their activity duration, and increase their walking distance. The author believes that this is because the laparoscopic partial hepatectomy for liver cancer has the characteristics of less trauma, and the patients have less active pain after operation, which can create favorable conditions for early postoperative movement. At the same time, the patients learned the advantages of early out-of-bed activities before surgery, which can alleviate their negative emotions such as depression and anxiety, help them build confidence in early out-of-bed activities, improve their compliance, and play a better role in promoting their early out-of-bed activities.

To sum up, laparoscopic partial hepatectomy for liver cancer in the treatment of patients with liver cancer can effectively shorten the time for patients to get out of bed, exhaust time, extend their activity duration and walking distance, and relieve their pain. It can be seen that it has a promoting effect on patients to get out of bed in the early stage after surgery.

Reference

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探讨腹腔镜肝癌肝部分切除术后患者早期下床活动的情况

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【摘要】目的：探究腹腔镜肝癌肝部分切除术后患者早期下床活动的影响。**方法：**重医附一院金山肝胆外科于 2020 年 10 月-2022 年 10 月期间收治的肝癌患者（n=80）为本次研究对象。按照随机数字表法分为 2 组，其中参考组（n=40）采取常规开腹手术治疗，实验组（n=40）采取腹腔镜肝癌肝部分切除术治疗，比较术后早期下床活动等情况。**结果：**实验组下床活动时间短于参考组（*P*＜0. 05），其活动持续时间、步行距离长于参靠组（*P*＜0. 05），实验组肛门排气时间及活动性疼痛均低于参考组（*P*＜0. 05）。两组并发症发生率对比差异无统计学意义（*P*＜0. 05）。**结论：**在肝癌患者治疗中采取腹腔镜肝癌肝部分切除术治疗，能够有效缩短患者的下床活动时间、排气时间，延长其活动持续时间及步行距离，同时可缓解其疼痛，可见对患者早期术后下床活动有促进效果。

【关键词】腹腔镜肝癌肝部分切除术；肝癌；早期下床活动

肝癌是一种严重威胁人类生命与健康的临床常见疾病，当前手术切除肿瘤已成为肝癌治疗的有效手段，有开腹肝切除术及腹腔镜肝切除术。腹腔镜肝切除术较传统开腹式肝切除术有创伤小、恢复快等极大优点，已迅速普及外科领域，并日益受到关注[1]。近年来，伴随着加速康复外科理念广泛地应用于肝脏外科，手术后早期下床活动已被公认为是最基本和最主要的举措施，不但可以促进消化、呼吸、运动及其他各系统功能恢复，也可减少下肢深静脉血栓等并发症产生。但是，并没有直接的证据表明腹腔镜肝切除术对肝癌患者的早期下床活动有帮助作用。为此，取本院于 2020 年 10 月-2022 年 10 月期间收治的肝癌患者（n=80）为本次研究对象。探究腹腔镜肝癌肝部分切除术后患者早期下床活动的影响。结果详见下文。

1 资料与方法

1.1 基础资料

选取本院于 2020 年 10 月-2022 年 10 月期间收治的肝癌患者（n=80）为本次研究对象。按照随机数字表法分为 2 组，其中参考组（n=40）采取常规开腹手术治疗，实验组（n=40）采取腹腔镜肝癌肝部分切除术治疗。其中参考组男、女性别例数为 19 例，21 例，年龄 46 岁-69 岁，均值（58. 76±2.35）岁。实验组男、女性别例数为 22 例，18 例，年龄 47 岁-68 岁，均值（58. 45±2.56）岁。两组资料比较差异不明显，不符合统计学含义（P＞0. 05）。上述对象均对本次研究目的知情，且积极参与本次研究。

1.2 方法

1.2.1 参考组

本组接受常规开腹手术治疗，护理人员备手术相关器具，协助患者调整为仰卧位，采取常规全麻。对患者胸部常规消毒，然后仔细消毒应手术切口，于肝脏病变位置胸部处行相应切口，寻找病灶肝脏病，切除并用生理盐水冲洗胸腔，随后缝合创面。

1.2.2 实验组

本组采取腹腔镜肝癌肝部分切除术治疗。护士在术前准备好手术过程中所需要的医疗器具, 首先让患者平躺在手术床上，再对患者进行常规的全身麻醉。对胸部进行严格的消毒以防感染。于肝区下缘处，行 3 个小切口，灌注生理盐水以确保接气管畅通，注入气体建立气腹，使胸腔负压达 12~14mmHg，于 3 个切口内分别置入 10mm、5mm、15mm Trocar，腹腔镜下行病灶处肝脏切除，然后进行生理盐水冲洗腹腔，且撤去腹腔负压，最后缝合创面。

1.2.3 术后早期下床活动实施

患者于手术后同时满足下列条件：意识清晰、生命体征稳定、无麻醉并发症；腹腔引流血性液体 24 h≤300 mL；切口敷料干燥，不渗血、渗液；肌力≥3 级；静息痛评分<4 分。于护理人员及家属协助下开展下床活动。活动期间，留意患者生命体征及不适主诉。若有直立不耐受、乏力等症状，应立即停止活动。

1.3 效果标准

1.3. 1 下床活动情况

观察比较两组下床活动情况。下床活动时间标准：自回到病房至离开病床站立内时间。活动持续时间标准：离开床面站起至活动完毕后再返回病床的时间。下床活动步行距离标准：离开病床站立点开始至活动完毕返回病床站立点的距离。

1.3. 2 肛门排气时间及活动性疼痛

观察两组肛门排气时间及活动性疼痛，其中活动性疼痛采取 VAS 量表进行评价，分数越高，提示患者的疼痛越严重。

1.3. 3 并发症发生率

观察两组患者术后并发症发生情况，其中可见跌倒、意外拔管。

1.4 统计学方法

研究所得到的数据均采用 SPSS 23. 0 软件进行处理。（$\bar{x}$±s）用于表示计量资料，用 *t* 检验；（%）用于表示计数资料，用（x^2）检验。当所计算出的 *P*＜0. 05 时则提示进行对比的对象之间存在显著差异。

2 结果

2.1 两组下床活动情况比较分析

实验组：下床活动时间（21.45±3. 42）h，活动持续时间（28. 76±6. 53）min，步行距离（56. 54±13. 23）m。参考组：下床活动时间（46. 54±3. 65）h，活动持续时间（14. 54±4. 57）min，步行距离（13. 46±11.56）m。*t* 检验值：下床活动时间（*t*=31.725, *P*=0. 001），活动持续时间（*t*=11.284, P=0. 001），步行距离（*t*=15. 508, *P*=0. 001）。实验组下床活动时间短于参考组（*P*＜0. 05），其活动持续时间、步行距离长于参靠组（*P*＜0. 05）。

2.2 两组肛门排气时间及活动性疼痛对比分析

实验组：肛门排气时间（31.53±1 2.43）h，活动性疼痛（1.45±0. 43）分。参考组：肛门排气时间（49. 87±15. 43）h，活动性疼痛（2.69±0. 54）分。*t* 检验值：肛门排气时间（*t*=5. 854, *P*=0. 001），活动性疼痛（*t*=11.361, *P*=0. 001）。实验组肛门排气时间及活动性疼痛均低于参考组（*P*＜0. 05）。

2.3 两组并发症发生率对比分析

实验组并发症发生率为 7. 50%（3/40）：跌倒 1 例，意外拔管 2 例。参考组并发症发生率为 10. 00%（4/40）：跌倒 1 例，意外拔管 3 例。x^2 检验值：（x^2=0. 157, *P*=0. 692）。实验组并发症发生率低于参考组（*P*＜0. 05）

3 讨论

近几年，微创外科得到持续发展，腹腔镜肝癌肝部分切除术势必在今后肝脏外科手术中发挥重要作用，促进护理管理与临床护理方法创新及术后康复护理模式变革。相关研究表明，手术后早期下床是关系到加速康复外科目标是否能达到的主要因素。早期下床活动可刺激肠蠕动、增加血液循环、促进肺泡扩张，并促使肌肉、呼吸、消化等系统功能恢复，可减少术后并发症产生，促进患者生活质量提升[2]。本次研究结果显示，实验组下床活动时间短于参考组（*P*＜0. 05），其活动持续时间、步行距离长于参靠组（*P*＜0. 05），实验组肛门排气时间及活动性疼痛均低于参考组（*P*＜0. 05）。两组并发症发生率对比差异无统计学意义（*P*＜0. 05）。提示采取腹腔镜肝癌肝部分切除术治疗能够降低患者活动性疼痛，缩短其下床活动时间、肛门排气时间，延长其活动持续时间，增加步行距离。笔者分析认为，这是因为，腹腔镜肝癌肝部分切除术具有创伤小的特点，患者术后活动性疼痛较轻，可为术后早期下床创造了有利的活动条件。同时患者于手术前了解到早期下床活动的优点，从而可缓解其抑郁，焦虑等负面情绪，有助于其建立早期下床活动的自信，提升其依从性，进而对其早期下床活动情况起到较好的促进效果。

综上所述，在肝癌患者治疗中采取腹腔镜肝癌肝部分切除术治疗，能够有效缩短患者的下床活动时

间、排气时间，延长其活动持续时间及步行距离，同时可缓解其疼痛，可见对患者早期术后下床活动有促进效果。

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