Efecto de la colecistectomía transhepática percutánea combinada con la colecistectomía laparoscópica en la calidad de vida de los pacientes ancianos con colecistitis calculosa aguda

Effect of Percutaneous Transhepatic Cholecystectomy Combined with Laparoscopic Cholecystectomy on the Quality of Life of Elderly Patients with Acute Calculous Cholecystitis

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Resumen
Evaluaron el efecto de la colecistectomía transhepática percutánea combinada con la colecistectomía laparoscópica sobre la calidad de vida de los pacientes ancianos con colecistitis calculosa aguda. Se evaluaron los índices de operación, las puntuaciones de salud aguda fisiológica y crónica (APACHE-II), las complicaciones posoperatorias y las puntuaciones de calidad de vida y se compararon entre los dos grupos. La duración de la operación, la temperatura postoperatoria, la duración de la estancia hospitalaria y la tasa de conversión a cirugía abierta en el grupo de estudio fueron menores que en el grupo de control (P <0,05); no hubo diferencias significativas en las puntuaciones APACHE-II entre los dos grupos antes de la cirugía (P > 0,05); La puntuación de APACHE-II posterior fue menor que la del grupo de control (P <0,05); la tasa de complicaciones posoperatorias en el grupo de estudio fue menor que la del grupo de control (P <0,05). La aplicación clínica de la colecistectomía transhepática percutánea combinada con la colecistectomía laparoscópica en el tratamiento de la colecistitis calculosa aguda en los ancianos tiene ventajas más obvias, reduce efectivamente la tasa de conversión, menos complicaciones y acorta la duración de la hospitalización, lo cual es de gran ayuda para acelerar el proceso de rehabilitación y mejorar la calidad de vida. Es un método seguro y factible para el tratamiento de la colecistitis aguda por cálculos en los ancianos.

Palabras clave: Colecistitis calculosa aguda en ancianos; Colecistitis calculosa aguda en ancianos; Colecistectomía laparoscópica; Calidad de vida

Abstract
To evaluate and analyze the effect of percutaneous transhepatic cholecystectomy combined with laparoscopic cholecystectomy on the quality of life of elderly patients with acute calculous cholecystitis. The operation indexes, acute physiological and chronic health (APACHE-II) scores, postoperative complications and quality of life scores were evaluated and compared between the two groups. The length of operation, postoperative temperature, length of hospital stay, and rate of conversion to open surgery in the study group were all lower than those in the control group (P <0.05); there was no significant difference in APACHE-II scores between the two groups before surgery (P> 0.05); The subsequent APACHE-II score was lower than that of the control group (P <0.05); the postoperative complication rate in the study group was lower than that of the control group (P <0.05). The clinical application of percutaneous transhepatic cholecystectomy combined with laparoscopic cholecystectomy in the treatment of acute calculous cholecystitis in the elderly has more obvious advantages, effectively reduces the conversion rate, fewer complications, and shortens the length of hospitalization, which is of great help to accelerate the rehabilitation process and improve the quality of life. It is a safe and feasible method for the treatment of acute calculous cholecystitis in the elderly.

Key words: Acute calculous cholecystitis in the elderly; Acute calculous cholecystitis in the elderly; Laparoscopic cholecystectomy; Quality of life

1. Introduction

Acute cholecystitis is a common surgical disease, which is related to bacterial infection and cholestasis, mainly caused by stones. Some literatures have pointed out that the proportion of patients with gallstone is as high as 95%, which is called calculous cholecystitis [1]. The main clinical symptoms of acute calculous cholecystitis are fever, abdominal pain, nausea and vomiting, temperature rise and so on. With the development
of the disease, it can lead to gallbladder perforation and gangrene inflammation. In order to avoid complications, improve prognosis and reduce mortality, surgical treatment is mainly used in clinical. Among them, laparoscopic cholecystectomy is simple and effective. In recent years, the aging problem of our country is becoming more and more serious, the number of elderly patients with acute cholecystitis is increasing gradually, and the elderly patients are a special group, most of them are suffering from chronic diseases, which undoubtedly increases the difficulty of clinical treatment. If one-way cholecystectomy, there is a greater risk of complications. It has been reported that percutaneous transhepatic gallbladder drainage can effectively control inflammation, with the advantages of simplicity, efficiency and safety [2]. In view of this, in this study, to evaluate and analyze the clinical effect of percutaneous transhepatic cholecystectomy combined with laparoscopic cholecystectomy on the elderly acute calculous cholecystitis and the impact on the quality of life of patients.

2. Materials and methods

2.1 General information

73 elderly patients with acute calculous cholecystitis admitted in our hospital from January 2018 to May 2019 were randomly selected and divided into two groups according to the odd even number of beds. In the control group (n = 37), there were 20 male patients and 17 female patients respectively; the age was 63-86 years old, with an average of (67.22 ± 3.40) years old; in the study group (n = 36), there were 21 male patients and 15 female patients respectively; the age was 64-85 years old, with an average of (68.01 ± 3.43) years old. All patients were accompanied by nausea, vomiting, fever, right upper abdominal pain and other clinical symptoms. There was no significant difference between the two groups (P > 0.05).

2.2 Inclusion exclusion criteria

Inclusion criteria: (1) All patients have been diagnosed as acute calculous cholecystitis by clinical manifestations combined with CT, B-ultrasound / MRI imaging; (2) After admission, it is invalid after conservative treatment; (3) The onset time is more than 72h; (4) The patients and their families have the right to know about the study and sign the consent.

Exclusion criteria: (1) Patients with consciousness disorder and psychosis; (2) Patients with upper abdominal operation history; (3) Patients with cirrhosis, gallbladder perforation and suspected gallbladder cancer; (4) Patients and their families disagree with this study.

2.3 Method

In the control group (n = 37), laparoscopic cholecystectomy was performed directly. Under the effect of general anesthesia, all the mouths were made under the umbilicus by 4-hole method. The length of the mouth was about 10 mm. CO2 artificial pneumoperitoneum was established. The abdominal pressure value was 10-14 mmHg. Laparoscopy was placed. Help the patient to pull the gallbladder after taking the head high and feet low, and release the tissue adhesion. The triangle area of the gallbladder was dissected, and cholecystectomy was performed by anterograde method combined with anterograde and retrograde method. The cystic duct and artery were closed and cut with the help of biological clamp. The electrocautery and hemostasis were done well. The removed gallbladder was taken out and drainage tube was placed. The operation was completed. If it is difficult to dissect the triangle area of the gallbladder or to complete the operation under the guidance of laparoscope, it is necessary to switch to open operation in time.

In the study group (n = 36), percutaneous transhepatic gallbladder puncture and drainage combined with laparoscopic cholecystectomy were performed. Guide the patient to take a flat lying position, and determine the location of the gallbladder under the B-ultrasonic exploration. The puncture point is under the L9 costal margin of the right axillary midline. Routine cloth laying disinfection, local anesthesia with 1% lidocaine, skin breaking with sharp knife, puncture into the liver to the gallbladder bed when holding breath, pull out the needle core, slowly withdraw bile, and observe whether the puncture is successful through contrast agent angiography. After the successful puncture, the fine guide wire is sent to the expansion tube, and the gallbladder is inserted into the drainage tube. Under the B-ultrasonic display, observe the position of the gallbladder and the head end of the drainage tube. After confirming that there is no bile leakage, fix the body surface, connect the drainage bag externally, and finish the operation.

2.4 Observation indicators

To evaluate and compare the following two groups: (1) Operation indexes, including operation duration, postoperative temperature, length of stay and conversion rate; (2) Acute physiology and chronic health (APACHE-II) score, which is composed of acute physiology score, age score and chronic health score. The lower the score, the lower the severity of acute disease; (3) Postoperative complications, including incision infection and bleeding (4) Quality of life score, using quality of life core questionnaire (QLQ-C30), divided into
body function, role function, emotional function, social function, cognitive function five, each 0-100 points, the higher the score, the better the quality of life.

2.5 Statistical analysis
The data were included in spss22.0 software analysis, and the measurement data were ( \( \bar{x} \pm s \) ), t-test; the count data were (%), chi square test, \( P < 0.05 \).

3. Results

3.1 Comparison of operation indexes between the two groups
The operation time, postoperative temperature, hospitalization time and conversion rate of the study group were lower than those of the control group \( (P < 0.05) \). (see Table 1 for details)

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Operation duration (min)</th>
<th>Postoperative temperature (°C)</th>
<th>Length of stay (d)</th>
<th>Conversion rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research group</td>
<td>36</td>
<td>80.11±9.63</td>
<td>37.22±0.20</td>
<td>6.52±2.30</td>
<td>1 (2.78)</td>
</tr>
<tr>
<td>Control group</td>
<td>37</td>
<td>91.05±12.97</td>
<td>37.85±0.24</td>
<td>7.99±2.04</td>
<td>4 (10.81)</td>
</tr>
<tr>
<td>t/x²</td>
<td>-</td>
<td>4.083</td>
<td>12.167</td>
<td>2.891</td>
<td>5.091</td>
</tr>
<tr>
<td>P</td>
<td>-</td>
<td>0.000</td>
<td>0.000</td>
<td>0.005</td>
<td>0.024</td>
</tr>
</tbody>
</table>

3.2 Comparison of APACHE-II scores between the two groups before and after operation
There was no significant difference between the two groups \( (P > 0.05) \); the APACHE-II scores of the first day and the third day in the study group were lower than those of the control group \( (P < 0.05) \). (see Table 2 for details)

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Preoperative</th>
<th>1d after operation</th>
<th>3d after operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research group</td>
<td>36</td>
<td>23.66±3.54</td>
<td>21.03±2.70</td>
<td>16.34±1.41</td>
</tr>
<tr>
<td>Control group</td>
<td>37</td>
<td>24.07±3.62</td>
<td>23.21±3.09</td>
<td>18.77±1.79</td>
</tr>
<tr>
<td>t</td>
<td>-</td>
<td>0.489</td>
<td>3.206</td>
<td>6.432</td>
</tr>
<tr>
<td>P</td>
<td>-</td>
<td>0.626</td>
<td>0.002</td>
<td>0.000</td>
</tr>
</tbody>
</table>

3.3 Comparison of complication rate between the two groups
The postoperative complication rate of the study group was lower than that of the control group \( (P < 0.05) \). (see Table 3 for details)

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Incisional infection</th>
<th>Hemorrhage</th>
<th>Bile leakage</th>
<th>Complication rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research group</td>
<td>36</td>
<td>0 (0.00)</td>
<td>1 (2.78)</td>
<td>1 (2.78)</td>
<td>2 (5.56)</td>
</tr>
<tr>
<td>Control group</td>
<td>37</td>
<td>2 (5.41)</td>
<td>3 (8.11)</td>
<td>2 (5.41)</td>
<td>6 (16.22)</td>
</tr>
<tr>
<td>x²</td>
<td>-</td>
<td>5.560</td>
<td>2.759</td>
<td>0.881</td>
<td>5.855</td>
</tr>
<tr>
<td>P</td>
<td>-</td>
<td>0.018</td>
<td>0.097</td>
<td>0.348</td>
<td>0.016</td>
</tr>
</tbody>
</table>

3.4 Comparison of quality of life scores between the two groups
The scores of physical function, role function, emotional function, social function and cognitive function in the study group were higher than those in the control group \( (P < 0.05) \). (see Table 4 for details)

<table>
<thead>
<tr>
<th>Group</th>
<th>Somatic function</th>
<th>Role function</th>
<th>Emotional function</th>
<th>Social function</th>
<th>Cognitive function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research group</td>
<td>89.63±4.11</td>
<td>91.02±4.35</td>
<td>92.06±4.48</td>
<td>91.73±4.69</td>
<td>93.12±4.58</td>
</tr>
<tr>
<td>Control group</td>
<td>80.25±3.67</td>
<td>82.14±3.55</td>
<td>82.82±3.70</td>
<td>80.01±4.03</td>
<td>84.93±3.99</td>
</tr>
<tr>
<td>t</td>
<td>43.208</td>
<td>9.568</td>
<td>9.620</td>
<td>11.462</td>
<td>8.153</td>
</tr>
<tr>
<td>P</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

4. Discussion
With the change of people's diet structure and the current aging problem in China, the incidence of acute calculous cholecystitis in the elderly in China is increasing year by year [3]. Due to the gradual decline of
physiological reserve function and organ function, and the decline of immunity and resistance, the elderly patients are prone to poisoning and shock reactions. In addition, most of the elderly patients with internal diseases increase the risk of surgery and anesthesia [4-6]. In this regard, we should not only ensure the thoroughness of the operation, but also ensure the safety of the operation. Relevant data show that the mortality rate of cholecystectomy in the elderly with acute calculous cholecystitis is as high as 15%. However, if percutaneous transhepatic cholecystectomy and laparoscopic cholecystectomy are used first, the mortality rate can be reduced to about 2% [7-9]. It can be seen that the risk of emergency operation for acute calculous cholecystitis in the elderly is high. If we choose a safe time to operate after the acute period, we can significantly reduce the rate of complications and mortality. With the popularization of laparoscopic technology in recent years, laparoscopic cholecystectomy has been widely used in clinical surgery because of its advantages of small trauma and high safety. Therefore, laparoscopic cholecystectomy has become an effective method for the treatment of acute calculous cholecystitis. However, in view of the continuous increase of gallbladder in the acute phase, some patients will also be accompanied with varying degrees of cystic wall ischemia, mucosal necrosis, surrounding tissue wrapping and other adverse phenomena, especially when dissecting the triangle area of gallbladder during operation, which is easy to cause bile duct damage, so the conversion rate of laparotomy will be higher than that of elective operation [10-12]. In addition, abdominal general anesthesia can also cause a series of stress reactions.

Some studies have pointed out that percutaneous transhepatic cholecystectomy is more effective in the treatment of acute calculous cholecystitis, and it will not be affected by the patients’ cardiopulmonary function and age limit. On the one hand, it can effectively alleviate the inflammation, but also provide a strong condition for the selective implementation of laparoscopic cholecystectomy, on the other hand, it can reduce the risks of anesthesia and surgery [12-14]. Through this study, we found that the advantages of percutaneous transhepatic cholecystectomy and drainage are: (1) The operation is local anesthesia, which can reduce stress response, patients can tolerate, and the operation is complete; (2) The emergency operation time is delayed, and cholecystectomy is performed after the inflammation is relieved, which is convenient, risk is reduced, and the success rate of the operation is improved; (3) The operation has good drainage effect, which can reduce the risk of gall bladder. After the juice is drained out of the body, the poisoning symptoms can be alleviated quickly and the risk of gallbladder perforation can be effectively avoided [15]. (4) Laparoscopic cholecystectomy can reduce complications and improve the quality of life of patients.

This study shows that the operation time, postoperative temperature, hospitalization time and conversion rate of the study group are all lower than those of the control group, suggesting that the application of percutaneous transhepatic gallbladder drainage combined with laparoscopic cholecystectomy can reduce the operation time, fundamentally avoid damage to the surrounding tissues, thus reducing the conversion rate of laparotomy, and reduce the postoperative temperature, relieve the fever and temperature rise. High symptoms naturally shorten the length of stay. There was no significant difference in APACHE-II score between the two groups before treatment (P > 0.05); the APACHE-II score of the study group after treatment was lower than that of the control group, suggesting that the application of percutaneous transhepatic cholecystectomy combined with laparoscopic cholecystectomy can effectively control cholecystitis inflammation and hinder the development of acute calculous cholecystitis. The postoperative complication rate of the study group was lower than that of the control group, suggesting that the application of percutaneous transhepatic gallbladder drainage combined with laparoscopic cholecystectomy can avoid the complications of incision infection, bleeding, bile leakage and so on to the greatest extent, reduce the pain of the patients and help promote the postoperative recovery. The quality of life score of the study group was higher than that of the control group, suggesting that percutaneous transhepatic cholecystectomy combined with laparoscopic cholecystectomy can effectively improve the quality of life of patients.

5. Conclusion

To sum up, the clinical application of percutaneous transhepatic cholecystectomy combined with laparoscopic cholecystectomy in the elderly acute calculous cholecystitis has more obvious treatment advantages, effectively reduces the conversion rate, fewer complications, and shortens the length of stay in hospital, which is of great help to accelerate the rehabilitation process and improve the quality of life, and is a safe and feasible treatment for the elderly acute calculous cholecystitis method.

References


