

Differences In Length of Stay, Duration of Back to Activity And Level of Postoperative Pain In Patients Cholelithiasis Mini Laparotomi Cholecystectomy with Laparoscopic Cholecystectomy Atsaiful Anwar Hospital Malang

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Background

Cholecystectomy is a common procedure and its complications rarely cause of death. Currently, laparoscopic cholecystectomy is a minimally invasive surgical procedure and has become a standard hospital procedure compared to minilaparotomi cholecystectomy procedures. laparoscopic cholecystectomy (LC) has become gold standard for the surgical treatment of cholelithiasis.

Objectives

To understanding the differences among length of stay, duration of back to activity, and level of postoperative pain in patient cholelithiasis by laparoscopic laparotomy cholecystectomy with laparoscopic cholecystectomy at Surgery Division of Saiful Anwar Hospital Malang.

Methods

This study was a prospective analytic observational study, aged ranging 20-65 years old with cholelithiasis treated with laparoscopic cholecystectomy and mini-laparotomy cholecystectomy.

Result

Total of 67 patients, 33 patients entered the KL group and 34 patients entered the KM group. The results showed no difference in treatment duration (2 days vs 2 days) and mobility (1 day vs 1 day) in both groups. The duration of operation in the KM group (57.5 ± 5.3 min) was significantly shorter than the KL group (106.5 ± 11.8 min) ($p = 0.000$, Mann-Whitney test). Interestingly, the pain scale (VAS score) in the KM group (2.8 ± 0.74) Did not differ significantly with the KL group (2.5 ± 0.6) ($p = 0.167$; Mann-Whitney test).

Conclusion

Based on this study, there was no difference in length of stay, mobilization, and level of pain in the cholesterol patients treated with laparoscopic laparotomy mini cholecystectomy and laparoscopic cholecystectomy.

Keywords: cholelithiasis laparoscopic, cholelithiasis mini laparotomy, cholelithiasis

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I. Background

Cholecystectomy is a common procedure and its complications rarely cause of death. Currently, laparoscopic cholecystectomy is a minimally invasive surgical procedure and has become a standard procedure in hospital compared to open cholecystectomy procedures. Lately, the development of cholecystectomy technique with mini laparotomy approach where the subcostal incision wound is done between 3-5 cm. Laparotomy mini cholecystectomy is possible and safe because it has lower postoperative morbidity and pain levels than conventional cholecystectomy Laparoscopic cholecystectomy was introduced in 1985 by Prof Dr Med Erich, Germany and today about 90% of cholecystectomy is done laparoscopically. laparoscopic cholecystectomy (LC) has become gold standard for the surgical treatment of gallbladder disease Mini-laparotomy cholecystectomy is a modification of open cholecystectomy by using a subcostal incision wound ranging from 3 to 5 cm. This new modification was first performed by Dubois and Berthelo. This incision resembles the Kocher incision with the exception of the width of the incision.

Currently the problem in Indonesia, not all hospital facilities have the availability of laparoscopic equipment, especially in standard hospital type B, C even D. As for the obstacles when there is availability laparoscopy, which is limited resources in the treatment of laparoscopic equipment and the high cost treatment should be issued by each hospital. In this era, Badan Penyelenggara Jaminan Sosial (BPJS) as the organizer of the National Health Insurance Programe (JKN). JKN is a guarantee of health protection for participants to benefit health care and protection in meeting basic health needs given to every person who has paid contributions or

fees paid by the government. Under the BPJS regulation in 2014, JKN participants can be served in health facilities in Indonesia with tiered system, ranging from primary health care to advanced facilities.



This health facility can be owned by the government, local government and private sector that fulfill the provisions of BPJS and cooperate with BPJS. However, reports received by the Ministry of Health, show that some of the hospitals have deficits. Based on a study examining the break-even costs of government hospitals, it said that only 14.7% of hospitals could achieve cost recovery while 85.3% failed to break even. Coupled with health ministry regulation (PERMENKES) Republic of Indonesia number 64 year 2016 about health service standard cost in health insurance program implementation where INA-CBG price in Permenkes 64/2016 not as expected by most of hospital. The purpose of this study is consideration for the surgeon to determine the appropriate cholecystectomy procedures for patients, especially in the current era of national health insurance

II. Result

This study involved 67 patients with cholecystectomy indication consisting of 33 patients with laparoscopic method and 34 patients with laparotomy mini method. This study was conducted on patients with a symptomatic cholesterol diagnosis that came to the surgical Digestive Polyclinic Hospital Saiful Anwar Malang from January 2015 to July 2016. Table 5.1 shows descriptive data on mean age, duration of operation, amount of bleeding, and pain scale. In addition to the data seen in Table 5.1, both in laparoscopic and mini-laparotomy groups, all patients were hospitalized for two days with mobilization from day one, oral diet started on the first day, and postoperative recovery (back to normal) Less than 2 weeks with a total score of 100 barthel index. In addition, all patients involved in this study did not experience complications or comorbid with other diseases. Based on therapy, all patients involved in this study did not get additional analgesics in addition to standard therapy.

Table 5.1 Data Descriptive

Variabel	Laparoskopik (n=33; mean±SD)	Minilaparotomi (n=34; mean±SD)
Lenght of stay	2±0	2±0
Lenght of back to activity	100±0	100±0
Age (year)	44.5±10.4	48.8±9.8
Operation Duratin (minute)	106.5±11.8	57.5±5.3
Pain of scale (VAS Score)	2.5±0.6	2.8±0.74

Figure 5.1 shows that the mean pain scale of the laparoscopic method (VAS score 2.5 ± 0.6) is lower than the laparotomy mini method (VAS score 2.8 ± 0.74). The statistical test results with Mann-Whitney U show $p = 0.167$. Therefore, $p > 0.05$ then this result indicates that mean of pain score of laparoscopic method is not significantly different with laparotomy mini method.

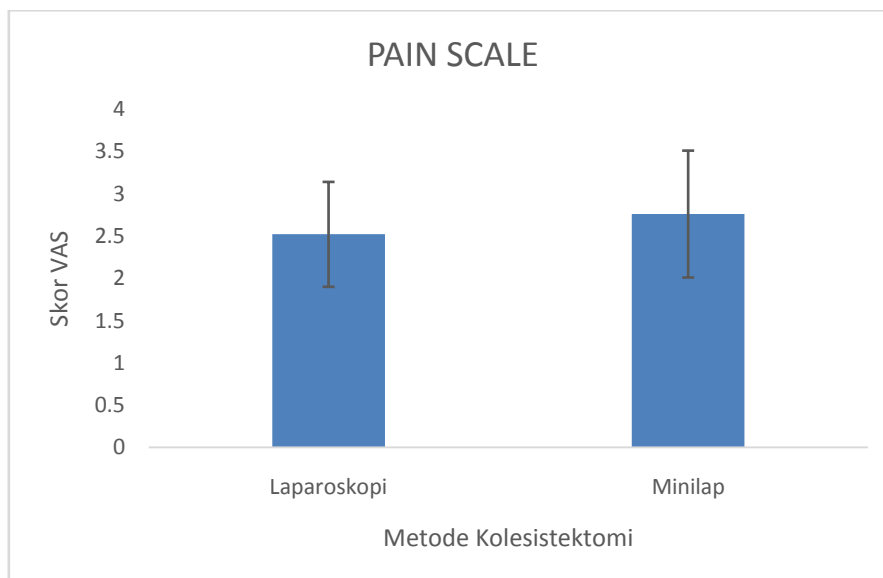


Figure 5.1 Differences in the pain scale between laparoscopic method and mini laparotomy

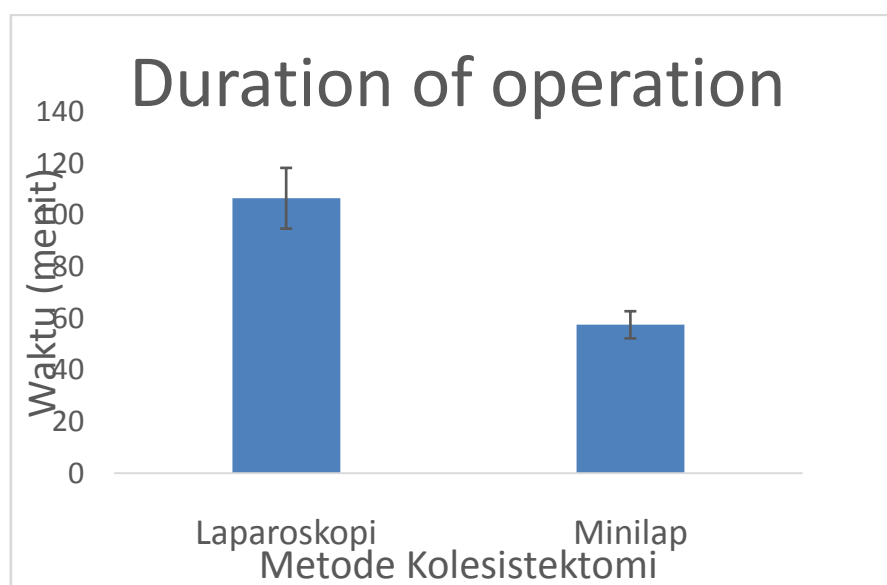


Figure 5.2 Differences in the duration of operation between laparoscopic method and mini laparotomy

III. Discussion

This was an observational study with cross-sectional design to compare two methods of cholecystectomy surgery, laparoscopy and mini laparotomy. This study involved 67 patients with cholecystectomy indication consisting of 33 patients with laparoscopic method and 34 patients with mini laparotomy method. In both laparoscopic and mini-laparotomy groups, all patients were hospitalized for two days with mobilization from day one, oral diet started on the first day, and postoperative recovery time (back to normal) for less than 2 weeks. For the pain scale in this study did not differ significantly although the pain score on laparoscopic method was lower than laparotomy method. This is because both laparoscopic cholecystectomy and laparotomy mini cholecystectomy are minimally invasive surgery.

Several studies comparing these two methods have been widely used, including comparison of duration of operation, length of stay, recovery rate, number of complications and rates of morbidity and mortality, analgesic requirements and postoperative pain rate, and cost efficiency. Research by McMahon et al reported that laparoscopic methods were superior in terms of length of stay, postoperative dysfunction, and recovery rate while mini laparotomy was superior in terms of cost requirements.³⁶ In terms of length of stay and recovery rate, Ros et al also reported similar results. Based on postoperative pain, several studies have reported that laparoscopic methods are superior to minilaparotomy⁴² although some show no significant difference.³⁸ Vagenas et al reported in more detail on the use of surgical analgesics, postoperative in recovered room, and postoperative in recovered room. The use of additional analgesics during surgery and in the recovered room did

not differ between the two groups, whereas in the mini group laparotomy the use of opioids was greater than in the laparoscopic group.

IV. Conclusion

Duration of stay at the hospital, duration of back to activity and scale of pain in mini laparotomy and laparoscopic cholecystectomy method did not differ significantly in hospital Saiful Anwar Malang

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