



Safety and feasibility of single-incision laparoscopic cholecystectomy in obese patients



Masaki Wakasugi*, Masahiro Tanemura, Mitsuyoshi Tei, Kenta Furukawa, Yozo Suzuki, Toru Masuzawa, Kentaro Kishi, Hiroki Akamatsu

Department of Surgery, Osaka Police Hospital, 10-31 Kitayama-cho, Tennouji-ku, Osaka 543-0035, Japan

HIGHLIGHTS

- Single-incision laparoscopic cholecystectomy offers good cosmetic outcomes.
- Single-incision laparoscopic cholecystectomy seems feasible and safe in obese patients.

ARTICLE INFO

Article history:

Received 12 August 2016

Received in revised form

21 December 2016

Accepted 21 December 2016

Keywords:

Laparoscopic cholecystectomy

Single-incision laparoscopic surgery (SILS)

Obesity

Body mass index

ABSTRACT

Background: Current literature frequently indicates that experienced laparoscopic surgeons can safely perform single-incision laparoscopic cholecystectomy, but there have been few reports evaluating the feasibility and safety of performing single-incision laparoscopic cholecystectomy for obese patients. Therefore, a large single-center database was retrospectively reviewed to evaluate the feasibility and safety of single-incision laparoscopic cholecystectomy for obese patients by comparing the outcomes of normal-weight and obese patients undergoing single-incision laparoscopic cholecystectomy.

Methods: A retrospective analysis of 608 patients undergoing SILC between May 2009 and May 2015 at Osaka Police Hospital was performed, and the outcomes of obese [body mass index (BMI) ≥ 30 kg/m²] and normal-weight patients ($18.5 \leq \text{BMI} < 25$ kg/m²) were compared.

Results: Thirty-eight obese patients (mean BMI 32.5 kg/m²) were compared to 362 normal-weight patients (mean BMI 22.0 kg/m²). The American Society of Anesthesiologists (ASA) scores of the obese patients were significantly higher than those of normal-weight patients. The mean operative times in the normal-weight and the obese groups were 110 min vs. 127 min, respectively ($p < 0.05$). There were no significant differences in the bleeding volume and the conversion rate to a different operative procedure. Perioperative complications were seen in 6% (23/362) of the patients in the normal-weight group and 8% (3/38) of the patients in the obese group ($p = 0.7$). The mean postoperative hospital stay was 4.5 days for the normal-weight group and 4.4 days for the obese group ($p = 0.8$).

Conclusions: Single-incision laparoscopic cholecystectomy, which offers good cosmetic outcomes, seems feasible and safe in obese patients.

© 2016 The Author(s). Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Single-incision laparoscopic cholecystectomy (SILC) is a new technique that is drawing increasing attention because of good cosmesis, though there are many difficulties accompanied with a confined operating space, close proximity of the working instruments with limited triangulation, in-line positioning of the

laparoscope, and limited range of motion of the laparoscope and instruments [1–4]. Obese patients are sometimes considered unsuitable candidates for SILC because of the need for a prolonged operative time or an increased conversion rate to conventional multi-port surgery [5]. However, current literature frequently indicates that experienced laparoscopic surgeons can safely perform SILC [1–4], but there have been few reports evaluating the feasibility and safety of performing SILC for obese patients [6]. Therefore, a large single-center database was retrospectively reviewed to evaluate the safety and feasibility of SILC for obese patients by comparing the outcomes of normal-weight and obese patients

* Corresponding author.

E-mail address: wakasugimasaki@gmail.com (M. Wakasugi).

undergoing SILC.

2. Methods

2.1. Clinical setting

A retrospective analysis of 608 patients undergoing SILC from May 2009 to May 2015 at our institution was performed. The indications for SILC were gallstone, benign polyp, and chronic cholecystitis; acute cholecystitis was excluded in this study. For the outcome analyses, patients were selected by their BMI ($18.5 \leq \text{BMI} < 25 \text{ kg/m}^2$ vs. $\geq 30 \text{ kg/m}^2$) defined as normal-weight vs. obese according to the World Health Organization (WHO) [7] and compared.

2.2. Surgical technique

A single-access system with working channels was inserted into the abdominal cavity via an umbilical incision under visual control. Depending on the operator's choice and our hospital supplies, several types of single-access system (EZ access and Lap-Protector, Hakko Co., Ltd., Nagano, Japan; SILS™, Covidien, Dublin, Ireland; X-gate, Sumitomo Bakelite Co., Ltd., Tokyo, Japan; OCTO™ port, Surgical Network Systems, Tokyo, Japan; and surgical glove technique that involves the use of a plastic wound retractor inserted transumbilically with an attached glove to prevent CO₂ leakage, with its fingers functioning as multiple ports) were used in this study. Recently, EZ access on the Lap Protector was typically used for the insertion of trocars. A flexible 5-mm laparoscope, standard straight laparoscopic instruments, and laparoscopic coagulation shears were used during the operations (Fig. 1). In cases of difficult exposure, supplemental exposure systems (Mini Loop Retractor II, Covidien; or Endo Relief™, Hirata Precisions Co., Ltd., Chiba, Japan) were used according to the surgeon's preference and the clinical presentation [8]. Fig. 2 shows the postoperative scar after SILC.

2.3. Data collection

Data on the patients' age, sex, BMI, American Society of Anesthesiologists (ASA) score, history of previous abdominal surgery, operative time, bleeding volume, supplementary exposure system, conversion rate, perioperative complications, and postoperative hospital stay were obtained from the medical records.

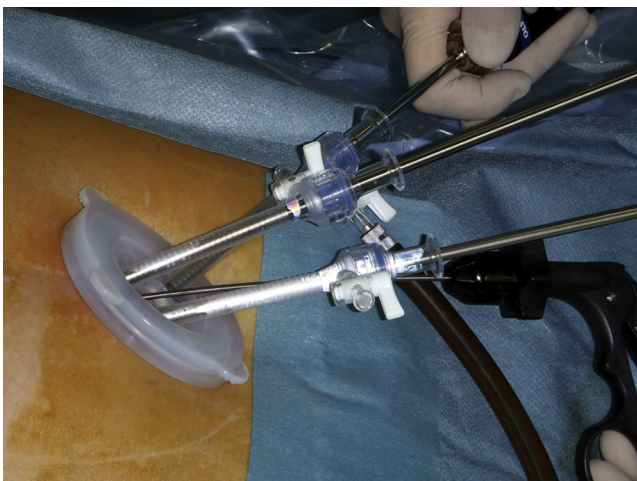


Fig. 1. The Endo Relief and the three ports secured to the EZ Access for SILC.

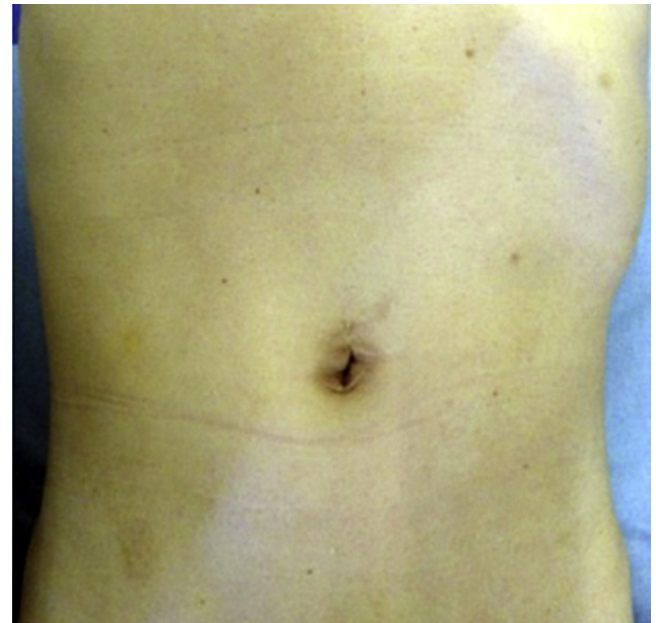


Fig. 2. The postoperative scar after SILC.

2.4. Statistical analysis

Student's *t*-test, the Mann-Whitney *U* test, and Fisher's exact probability test were used for the analyses of data, as appropriate. All analyses were performed with EZR (Saitama Medical Center, Jichi Medical University, Saitama, Japan), which is a graphical user interface for R (The Foundation for Statistical Computing) [9]. Differences at $p < 0.05$ were considered significant.

3. Results

Table 1 shows the patients' characteristics. Between May 2009 and May 2015, 608 patients with a mean age of 60 years (range 18–89 years) and a mean BMI of 23.9 kg/m^2 (range $15.0\text{--}41.0 \text{ kg/m}^2$) underwent SILC at Osaka Police Hospital. Three hundred and sixty two patients (60%, 362/608) had a $18.5 \leq \text{BMI} < 25 \text{ kg/m}^2$, defined as normal-weight according to the WHO. Thirty-eight patients (6%, 38/608) had a $\text{BMI} \geq 30 \text{ kg/m}^2$, defined as obese. The mean BMI differed significantly between the patient groups as expected. Furthermore, the ASA scores of the obese patients were significantly higher than those of the normal-weight patients, but the remaining baseline characteristics (age, sex, and history of previous abdominal surgery) were comparable.

Table 2 shows the perioperative data. The mean operative time in the normal-weight and obese groups was $110 \pm 44 \text{ min}$ (range

Table 1
Patients' characteristics.

| Characteristics | Normal weight patients (n = 362) | Obese patients (n = 38) | p value |
|----------------------------|----------------------------------|-------------------------|---------|
| Age, year | 60 ± 14 | 56 ± 13 | 0.1 |
| Male sex | 180 (50) | 15 (39) | 0.2 |
| BMI, kg/m ² | 22.0 ± 1.7 | 32.5 ± 2.4 | <0.05 |
| ASA score ≥ 3 | 27 (7) | 9 (24) | <0.05 |
| Previous abdominal surgery | 95 (26) | 11 (29) | 0.7 |

Datas are given mean ± SD or number (%), otherwise specified.

SD, standard deviation.

BMI, body mass index.

ASA, American Society of Anesthesiologists.

Download English Version:

<https://daneshyari.com/en/article/5722977>

Download Persian Version:

<https://daneshyari.com/article/5722977>

[Daneshyari.com](https://daneshyari.com)