European Journal of Obstetrics & Gynecology and Reproductive Biology 169 (2013) 84–87

Contents lists available at SciVerse ScienceDirect

European Journal of Obstetrics & Gynecology and Reproductive Biology

journal homepage: www.elsevier.com/locate/ejogrb

Gynaecological laparoscopic surgery for benign conditions: do women care about incisions?

B. Tuschy [a,*], S. Berlit [a], J. Brade [b], M. Sütterlin [a], A. Hornemann [a]

[a] Department of Obstetrics and Gynaecology, University Medical Centre Mannheim, Heidelberg University, Mannheim, Germany
[b] Department of Medical Statistics and Biomathematics, Medical Faculty Mannheim, Heidelberg University, Mannheim, Germany

ARTICLE INFO

Article history:
Received 7 August 2012
Received in revised form 4 November 2012
Accepted 5 February 2013

Keywords:
Gynaecologic laparoscopic surgery
Incision
Benign conditions
LESS
Survey

ABSTRACT

Objective: To determine the relevance of the number and location of incisions in women undergoing gynaecologic laparoscopy due to benign conditions.
Study design: This study included 141 women, who underwent gynaecologic laparoscopic surgery with 4 incisions due to benign conditions between November 2010 and November 2011 at the University Medical Centre Mannheim, Germany. Women with malign histology were excluded. Demographic parameters, type and duration of surgery, perioperative complications and duration of hospital stay were analysed. Women were contacted using a standardized telephone survey with an interval of at least 22 weeks after surgery. Patients were interviewed regarding the number, postoperative pain and their preferences for omission of incisions.
Results: Eighty-seven women (61.7%) responded to the standardized questionnaire. 38 (43.7%) remembered the number of incisions correctly. 45 of the women (51.7%) thought they had less, 4 (4.6%) thought, they had more incisions as they actually did have. If one of the incisions had to be discarded 28 (32.2%) patients did not have any preferences with regard to the localisation. Of the other 59 patients, 44 (74.6%) would prefer to eliminate the umbilical one.
Conclusion: The majority of the women remembered fewer incisions than actually used. Most of the patients interviewed would, if possible, eliminate the umbilical incision. Therefore from the patient's perspective the skin scars after conventional laparoscopic surgery seem to be of limited importance and the alleged advantage of omission of additional incision using single site surgery remains debatable.

1. Introduction

Over the last decades, laparoscopy has evolved from a diagnostic tool to a modality for major surgical procedures. With the introduction of electrosurgical technologies, gynaecological procedures such as hysterectomy, adnexal surgery and uterine myomectomy can be performed as minimally invasive surgery. Nowadays, even women suffering from urinary incontinence, pelvic organ prolapse, or endometrial or cervical cancer can undergo surgery using minimally invasive techniques [1]. Intensive research and the increasing experience of physicians have led to reduction in the size and number of ports required for gynaecological procedures. As a consequence, laparoendoscopic single-site surgery (LESS), using a single port with a single incision concealed within the umbilicus, has been introduced. This novel, minimally invasive technique has the advantage of fewer incisions, minimizing potential morbidity and providing better cosmetic results [2].

Several studies have shown that gynaecological laparoscopic surgery for both benign and malignant conditions results in better surgical outcome and improved quality of life compared with conventional surgery [3–5]. Most studies have focused on clinical outcomes such as operating time, surgical complications, duration of hospital stay and postoperative pain management. Investigations concerning quality of life and patients' perceptions of novel methods are scarce. Quality of life has been evaluated in less than 5% of studies investigating surgery for benign conditions, while the importance of patient-centred outcome parameters is emphasized in oncological studies [6]. From the patient's point of view, results such as symptom resolution, return to daily activities and personal satisfaction are at least as important as the classical outcomes, and should be considered more often in prospective studies.

Interest in single-port surgery has grown exponentially, and the feasibility of this minimally invasive technique has been demonstrated in both malignant and benign gynaecological conditions.

* Corresponding author at: University Medical Centre Mannheim, Department of Obstetrics and Gynaecology, Theodor-Kutzer-Ufer 1-3, D-68167 Mannheim, Germany. Tel.: +49 621 383 2286; fax: +49 621 383 3814.
E-mail addresses: benjamin.tuschy@umm.de, benjamintuschy@gmx.de (B. Tuschy).

0301-2115/$ – see front matter © 2013 Elsevier Ireland Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.ejogrb.2013.02.002

Table 1
Characteristics of the study population

($n = 87$) divided into three groups depending on perceived number of incisions.

Variable	Study population ($n = 87$) Mean ± SD	Correct perception of number of incisions (38/87, 44%) Mean ± SD	Underestimation of number of incisions (45/87, 52%) Mean ± SD	Overestimation of number of incisions (4/87, 5%) Mean ± SD	p-Value
Age (years)	43.5 ± 11.6	44.47 ± 12.61	42.58 ± 10.86	43.75 ± 12.92	0.764[a]
Body mass index (kg/m^2)	27.0 ± 6.7	26.98 ± 6.751	26.81 ± 6.871	28.19 ± 6.145	0.927[a]
Duration of surgery (min)	98.4 ± 48.5	85.89 ± 41.73	109.2 ± 50.01	88.50 ± 60.52	0.0955[a]
Overall hospital stay (days)	2.3 ± 1.1	2.316 ± 1.358	2.333 ± 0.7977	1.750 ± 1.258	0.5917[a]
Migratory background	17/87 (20%)	7/38 (18%)	8/45 (18%)	2/4 (50%)	0.2894[b]
Concomitant diseases	41/87 (47%)	23/38 (61%)	24/45 (53%)	2/4 (50%)	0.7782[b]
Intra-operative complications	0/87 (0%)	0/38 (0%)	0/45 (0%)	0/4 (0%)	NA
Prior abdominal surgery	56/87 (64%)	27/38 (71%)	27/45 (60%)	2/4 (50%)	0.4784[b]
Duration between surgery and survey (days)	302 ± 99.2	321	302	270	0.4714[a]

SD, standard deviation; NA, not applicable.
[a] One-way analysis of variance.
[b] Chi-squared test.

This raises the issue of whether women would prefer to have a larger and potentially more painful incision in the umbilicus in order to avoid incisions in other locations. The aim of this study was to determine patients' perceptions of the number and location of incisions applied during surgery, and their preferences regarding avoidance of incisions during gynaecological laparoscopic surgery for benign conditions.

2. Materials and methods

All patients who underwent gynaecological laparoscopic surgery for benign conditions and required four trocar incisions between November 2010 and November 2011 at the University Medical Centre Mannheim, Germany were included in this study. Women suffering from malignant gynaecological conditions, women who required a conversion to laparotomy, and women who underwent a second procedure between the first laparoscopy and the telephone survey were excluded from this investigation. In addition, women who underwent purely diagnostic laparoscopy were excluded. Clinical and surgical parameters were gathered and entered into a Microsoft Excel spreadsheet. After surgery, the women were contacted by letter regarding the nature of this study, and were asked if they would be willing to participate in a voluntary telephone survey. The letter did not provide any information regarding the questions that would be asked in the telephone survey. The interval between surgery and the telephone survey was 22–68 weeks. Follow-up was defined as the interval between the date of surgery and the date of the telephone call. Every telephone call was made by one of three physicians using a standardized telephone script.

All laparoscopic procedures were performed under general anaesthesia with standardized incisions. A 10-mm optic trocar was inserted beneath the umbilicus, one 5-mm trocar was inserted suprapubically, and two 5-mm trocars were placed laterally in the lower abdomen. Maximum intra-operative pressure was 12 mmHg. All patients received pain relief according to a fixed schedule, and low-molecular-weight heparin for thromboprophylaxis.

2.1. Statistics

Arithmetic means and standard deviations were calculated for normally distributed variables. Qualitative variables were described in terms of frequencies. Differences between the groups in terms of age, body mass index (BMI), duration of surgery (min) and overall hospital stay (days) were analysed using one-way analysis of variance. Chi-squared test was used to compare the remaining categorical and nominal variables. Data were recorded and assessed using GraphPad Prism® Version 5.0 (GraphPad Software, La Jolla, CA, USA). $p < 0.05$ was taken to indicate statistical significance.

3. Results

In total, 288 laparoscopies for benign conditions were performed in women aged 18–78 (mean 43) years between November 2010 and November 2011. Of these, 141 women met the inclusion criteria and were contacted by letter. Eighty-seven patients (62%) were contacted successfully by telephone. The women were divided into three groups depending on their perception of the number of incisions in their procedure (Table 1).

Thirty-eight women (44%) perceived the correct number of incisions, 45 women (52%) thought that they had received fewer incisions than was actually the case, and four (5%) patients thought

Table 2
Type of laparoscopic surgery ($n = 87$).

Type and number of surgical procedures	Correct perception of number of incisions ($n = 38$)	Underestimated number of incisions ($n = 45$)	Overestimated number of incisions ($n = 4$)
TLH (20)	11/38 (29%)	9/45 (20%)	0/4 (0%)
Uterine fibroid resection (18)	8/38 (21%)	9/45 (20%)	1/4 (25%)
Salpingo-oopherectomy(15)	6/38 (16%)	8/45 (18%)	1/4 (25%)
LASH (14)	3/38 (8%)	9/45 (20%)	2/4 (50%)
Cyst exstirpation (11)	4/38 (11%)	6/45 (13%)	1/4 (25%)
Other[a] (32)	14/38 (37%)	17/45 (38%)	1/4 (25%)

TLH, total laparoscopic hysterectomy; LASH, laparoscopic supracervical hysterectomy.
[a] Adhesiolysis, salpingectomy, appendectomy, peritoneal biopsy; multiple procedures per patient were possible. Overall Chi-squared p-value: 0.7530.