Actas Urol Esp. 2016;40(4):245–250

Actas Urológicas Españolas

www.elsevier.es/actasuro

ORIGINAL ARTICLE

Outcomes of laparoscopic adrenalectomy: Conventional technique versus laparo-endoscopic single-site surgery☆

P. León-Medina*, A. Blanco-Díez, D.M. Mejía-Chavarría, J.V. Armas-Molina, J. Molina-Cabrillana, J.L. Artiles-Hernández

Complejo Hospitalario Universitario Insular-Materno Infantil de Gran Canaria, Las Palmas, Spain

Received 28 September 2015; accepted 30 November 2015
Available online 21 March 2016

KEYWORDS
Adrenal;
Laparascopic adrenalectomy;
Single-site laparoscopy

Abstract

Objective: Perform a comparative analysis of the outcomes of conventional laparoscopic adrenalectomy (LC) and the newly introduced laparo-endoscopic single-site surgery (LESS) over ten years.

Material and method: We retrospectively reviewed the experience of a single surgeon from our medical center with laparoscopic adrenalectomy, either through LC or LESS, with 75 patients between August 2005 and June 2015. Here we describe: age, sex, size, lateralization, preoperative diagnosis, total operating time, intraoperative bleeding, conversion to open surgery, mean hospital stay, intra- and postoperative complications and histopathology report.

We used Fischer's and the Chi-squared tests to compare categorical data and Student's *t*-test for a comparison of the means with a normal distribution. Statistical significance was determined when $p < 0.05$.

Results: LC was performed in 51 patients, and LESS in 24 patients. No statistical significance was found for total operating time (LC: 103.9 ± 13.21 min versus LESS: 101.46 ± 13.65 min; $p = 0.07$), estimated bleeding (LC: 258.82 ± 136.92 cc versus LESS: 131.25 ± 36.74 cc; $p = 0.46$), intraoperative complications (5 cases in LC, none in LESS; $p = 0.47$), nor for postoperative complications (two in LC versus one in LESS; $p = 0.69$), as cataloged according to the modified Clavien classification system. We detected a statistical significance difference in the comparisons of the mean hospital stay, which was reduced in LESS (LC: 3.55 ± 0.69 days versus LESS: 2.21 ± 0.31 days; $p = 0.01$).

☆ Please cite this article as: León-Medina P, Blanco-Díez A, Mejía-Chavarría DM, Armas-Molina JV, Molina-Cabrillana J, Artiles-Hernández JL. Resultados de la suprarrenalectomía laparoscópica en nuestro centro: técnica convencional vs puerto único laparoscópico. Actas Urol Esp. 2016;40:245–250.

* Corresponding author.
E-mail address: paula.leon.medina@gmail.com (P. León-Medina).

Conclusions: Adrenalectomy with LC is the approach of choice for surgical treatment of adrenal pathologies. The LESS technique is safe, improves the cosmetic results, and does not increase mortality if performed by experienced teams.

PALABRAS CLAVE
Suprarrenal;
Suprarrenalectomía laparoscópica;
Puerto único laparoscópico

Resultados de la suprarrenalectomía laparoscópica: técnica convencional vs puerto único laparoscópico

Resumen

Objetivo: Analizar nuestros resultados tras 10 años de adrenalectomías laparoscópicas convencionales (LC) y compararlos con los que obtiene la técnica por puerto único (LESS) recientemente introducida en nuestro medio.

Material y método: Hemos revisado retrospectivamente los casos de 75 pacientes intervenidos de suprarrenalectomía por el mismo cirujano, por LC o LESS, en nuestro centro entre agosto de 2005 y junio de 2015. Se describen la edad, el sexo, el tamaño, la lateralidad, el diagnóstico preoperatorio, el tiempo quirúrgico, el sangrado intraoperatorio, la reconversión a cirugía abierta, la estancia media, las complicaciones intra y postoperatorias y el resultado anatomopatológico.

Se utilizó el test de Fisher y de Chi cuadrado para comparar datos categóricos, y el test de «t» de Student para la comparación de medias con distribución normal. Se consideró significación estadística cuando $p < 0,05$.

Resultados: La técnica de LC fue realizada en 51 pacientes y la LESS en 24. No se obtuvieron resultados estadísticamente significativos en cuanto al tiempo quirúrgico (LC: $103,9 \pm 13,21$ min vs LESS: $101,46 \pm 13,65$ min; $p = 0,07$), sangrado estimado (LC: $258,82 \pm 136,92$ cc vs LESS: $131,25 \pm 36,74$ cc; $p = 0,46$), complicaciones intraoperatorias (5 casos en LC vs ninguno en LESS; $p = 0,47$) ni posquirúrgicas (2 en el grupo de la LC vs una en el de LESS; $p = 0,69$) catalogadas según el *Sistema Clavien modificado*. La estancia hospitalaria fue menor en el caso del LESS (LC: $3,55 \pm 0,69$ días vs LESS: $2,21 \pm 0,31$ días; $p = 0,01$).

Conclusiones: La suprarrenalectomía con LC es el abordaje de elección para el tratamiento quirúrgico de la enfermedad adrenal. La técnica LESS es segura y mejora los resultados cosméticos si se realiza por equipos experimentados sin aumentar la morbilidad.

Introduction

Since in 1992 Gagner et al. described the first laparoscopic adrenalectomy, this has grown to become the technique of choice for surgical treatment of adrenal masses.[1] The advantages of laparoscopic surgery versus conventional open surgery have been evident throughout its development in recent years; the reduction of perioperative morbidity, hospital stay, rapid recovery, improved cosmetic results, and cost-effectiveness ratio have made it the gold standard approach in a large amount of surgeries of our own specialty surgeries.[2–4]

Currently, the development of even less invasive new techniques such as single site laparoscopy (LESS), which improves the esthetic result of the surgery and hospital stay, awaken a growing interest in experienced teams in laparoscopic techniques that achieve this objective without increasing morbidity and mortality.[5]

In this paper we describe our series of laparoscopic adrenalectomies and our experience with LESS surgery.

Material and method

This is a retrospective and descriptive study of all patients undergoing adrenal disease by laparoscopy, either with conventional technique or with the use of a single port, by the same surgeon from 2005 to the present in the University Hospital Insular-Materno Infantil of Gran Canaria that make a total of 75 cases.

We studied demographic data such as age and sex, clinical diagnosis, and subsequent pathology, type of previous radiological study, size, and mass laterality, and data on surgery such as bleeding, operative time, conversion to open surgery, intraoperative and postoperative complications, as well as hospital stay.

The criteria followed for the indication for surgery are: functioning adrenal mass, incidentaloma > 5 cm in patients under 70 years, non-functioning adrenal lesion with progressive growth, or solitary adrenal metastasis.

All patients were studied by CT or MRI, thus assessing the size of the mass and its relation to adjacent organs.

As for the technique used for CL, we have used in all cases the lateral transperitoneal approach; the patient is placed in lateral decubitus opposite the gland that is intended to approach and we proceed to the insertion of 4 trocars in diamond (2 of 5 mm and other 2 of 12 mm), the first one being placed on the side margin of the anterior ipsilateral rectus muscle 3 cm away from the navel; insufflation with carbon dioxide is performed at pressures between 8 and 12 mm Hg. The other trocars will be inserted so that a portal of 12 mm is