



LAPAROSCOPY/ROBOTICS  
ORIGINAL ARTICLE

## Feasibility and safety of laparoscopic adrenalectomy for large tumours



**Badr Serji<sup>a,d,\*</sup>, Amine Souadka<sup>a</sup>, Amine Benkabbou<sup>a</sup>, Hajar Hachim<sup>a</sup>,  
Lamin Jaiteh<sup>a</sup>, Raouf Mohsine<sup>a</sup>, Lahcen Ifrine<sup>a</sup>, Abdelkader Belkouchi<sup>a</sup>,  
Hadj Omar El Malki<sup>a,b,c</sup>**

<sup>a</sup> Surgery Department 'A', Ibn Sina Hospital, Medical School, Mohammed V University in Rabat, Morocco

<sup>b</sup> Medical Centre of Clinical Trials and Epidemiological Study and Biostatistical, Clinical Research and Epidemiological Laboratory, Medical School, Mohammed V University in Rabat, Morocco

<sup>c</sup> Abulcasis International University of Health Sciences, Abulcasis Medical School, Rabat, Morocco

<sup>d</sup> Medical School, Mohammed the First University, Oujda, Morocco

Received 31 January 2016, Received in revised form 21 March 2016, Accepted 25 April 2016

### KEYWORDS

Adrenalectomy;  
Laparoscopy;  
Large tumour

### ABBREVIATIONS

ASA, American Society of Anesthesiology;  
HCC, hepatocellular carcinoma;

**Abstract Objective:** To verify the feasibility and safety of laparoscopic adrenalectomy for large tumours, as since it was described, the laparoscopic approach for adrenalectomy has become the 'gold standard' for small tumours and for large and non-malignant adrenal tumours many studies have reported acceptable results.

**Patients and methods:** This is a retrospective study from a general surgery department from January 2006 to December 2013 including 45 patients (56 laparoscopic adrenalectomies). We divided patients into two groups according to tumour size:  $< 5$  or  $\geq 5$  cm, we compared demographic data and peri- and postoperative outcomes.

**Results:** There was no statistical difference between the two groups for conversion rate (3.7% vs 11.7%  $P = 0.32$ ), postoperative complications (14% vs 12%,  $P = 0.4$ ), postoperative length of hospital stay (5 vs 6 days  $P = 0.43$ ) or mortality

\* Corresponding author at: Surgery Department 'A', Ibn Sina Hospital, Medical School, Mohammed V University in Rabat, Morocco. Tel.: +212 661 057 057; fax: +212 537 812 295.

E-mail address: [badr.serji@hotmail.fr](mailto:badr.serji@hotmail.fr) (B. Serji).

Peer review under responsibility of Arab Association of Urology.



Production and hosting by Elsevier

## LA, laparoscopic adrenalectomy

(3.5% vs 0%  $P = 0.99$ ). The only statistical difference was the operating time, at a mean (SD) 155 (60) vs 247 (71) min ( $P < 0.001$ ).

**Conclusion:** Laparoscopic adrenalectomy for large tumours needs more time but appears to be safe and feasible when performed by experienced surgeons.

© 2016 Arab Association of Urology. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Introduction

Described for the first time by Gagner et al. [1], the laparoscopic approach has become the ‘gold standard’ procedure for adrenal surgery [2–4], and especially with the development of materials for dissection and coagulation (Ligasure, ultrasonic scalpel). However, laparoscopic adrenalectomy still has some limits concerning size and malignancy. Recently published studies have shown that size is not a limitation [5,6]. The aim of the present study was to verify the feasibility and safety of laparoscopic adrenalectomy (LA) for large tumours in our context.

## Patients and methods

This is a retrospective study from January 2006 to December 2013, including all consecutive LAs performed in our surgical department. Our policy in the department is to exclude adrenal tumours that are potentially malignant (locally invasive on imaging or presence of suspicious deep lymph nodes) or metastatic adrenal tumours for laparoscopic resection. We reviewed data on age, gender, American Society of Anaesthesiology (ASA) score, preoperative diagnosis, tumour size, operating time (excluding repositioning time for bilateral resection), conversion to open surgery, morbidity, and mortality. We used the Clavien–Dindo score to classify postoperative complications. We divided patients into two groups according to the size of the tumour using preoperative imaging:  $< 5$  and  $\geq 5$  cm, which was considered as the definition of large adrenal tumours. All data concerning pre-, peri- and postoperative outcomes were compared and analysed using adequate statistical tests (with SPSS 13). Results are expressed as mean (SD) or median (range). Continuous data were compared between two groups using the Student’s  $t$ -test. When data were not normally distributed, univariable analysis was carried out using non-parametric tests. Categorical data were compared using the chi-squared test or Fisher’s exact test, as appropriate. We considered a  $P < 0.05$  to indicate statistical significance.

Patients were operated upon in a general surgery department by four surgeons. For every patient with an adrenal secreting tumour, medical preparation is given according to the diagnosis ( $\alpha_1$  inhibitor for phaeochromocytoma and cortisol antagonist for Cushing’s disease).

Once in the operating room and after general anaesthesia, invasive blood pressure monitoring and a central venous line catheter are used if necessary. We perform LA in the lateral position using a transperitoneal approach, with four ports for a unilateral lesion and seven ports for bilateral adrenal tumours with the same epigastric port. Pneumoperitoneum is maintained at 12 mm Hg. For dissection we use a monopolar or bipolar scalpel, occasionally ultracision (Ethicon Endo-Surgery Inc, Cincinnati, OH, USA) or Ligasure (Covidien, Boulder, CO, USA) when available. For the right side, we begin by mobilising the liver, which is retracted via the epigastric port. We continue the incision of the peritoneum in the inferior part of the liver to the right border of the inferior vein cava to expose the adrenal vein, which is first clipped using two clips on the patient side or sometimes ligated. The adrenal gland is then dissected from the rest of the adjacent structures, artery and an eventual accessory adrenal vein is ligated as we advance in dissection. On the left side, we start by the incision of the splenic flexure, and then the spleno-renal ligament is opened until the greater curvature of the stomach is seen. We look for the adrenal vein on the superior border of the left renal vein, which is dissected on the renal hilum. It is then clipped using two clips on the patient side. The rest of adrenal tumour is dissected from the surrounding structures and other additional adrenal branches are coagulated or clipped from inferior phrenic vessels. The specimen is extracted by an incision joining two ports, in a retrieval bag. A drain is placed using the lateral port.

## Results

In all, 56 consecutive LAs were performed on 45 patients. The mean (SD; range) age was 38 (14; 17–67) years, with a male to female ratio of 0.23. The mean (SD; range) adrenal tumour size was 6 (2.4; 3.3–14) cm. We performed 16 right LAs, 18 left, and 11 bilateral. There were 20 patients with phaeochromocytoma, 16 cases of functional and non-functional adenomas, two cases of Cushing’s disease (pituitary adenoma after failure of surgical, medical and radiotherapy approach), and one case of hepatocellular carcinoma (HCC) adrenal metastasis. The mean (SD) operative time was 184 (81) min. Three (6.7%) patients underwent conversion to laparotomy (difficulties regarding dissection in two patients and uncontrollable haemorrhage in the other

Download English Version:

<https://daneshyari.com/en/article/4267921>

Download Persian Version:

<https://daneshyari.com/article/4267921>

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