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ABSTRACT

Background: Laparoscopy in the treatment of ovarian cysts is new in most African countries. In 2009 we performed the first ovarian cysts operations by laparoscopy at the University Hospital of Brazzaville (UHB).

Objective: To show the contribution of laparoscopic surgery in the management of ovarian cysts.

Design: Retrospective comparative study.

Setting: Obstetrics and Gynaecology Department of the UHB, from 1st August 2009 to 31st August 2012.

Subjects: All patients operated on at the UHB for suspected ovarian cyst.

Results: Laparoscopic surgery for ovarian cyst represented 30.3% of operated cases. The average age of patients was 32.2 years versus 33 years in laparoscopy to laparotomy. The average rate was similar in both groups (1.78 ± 1.57 vs. 2.17 ± 1.8 ; $p > 0.05$). The most surgery was the intraperitoneal cystectomy in both groups, with no significant difference. The mean duration of surgery was reduced by laparoscopy (45.7 ± 17 min vs. 30 ± 7 min, $p < 0.05$); as well as hospitalisation (4.2 ± 0.2 vs. 1.5 ± 0.5 ; $p < 0.05$). Postoperative pain was minimised by laparoscopy, significantly reducing the use of pain-killers. The average direct cost of the intervention was reduced by laparoscopy ($123\,445 \pm 46$ versus 192 ± 78 (160 CFA francs) ($p < 0.05$). The aesthetic profit was significantly better in laparoscopy compared to laparotomy

Conclusion: The results of the treatment of ovarian cysts by laparoscopic surgery are significantly better compared to laparotomy. This practice therefore deserves to be popularised to the great benefit of patients.

INTRODUCTION

The development of laparoscopic surgery is one of the most important medical advances of recent decades. This technique has become the surgical treatment of choice in the treatment of ovarian cysts in the developed countries in general and particularly in France (1, 2). Since February 2009, the Congolese days of endoscopic surgery at the UHB, some ovarian cysts were treated by laparoscopy (3).

Our study, the first on this subject in the Congo, had the main objective of showing the contribution of laparoscopic surgery in the management of ovarian cysts at the UHB.

MATERIALS AND METHODS

This was a retrospective comparative study with transversal data collection conducted in Obstetrics and Gynecology department, at the UHB, from 1st August 2009 to 31st August 2012.

Were included all patients operated at the UHB for suspected ovarian cyst and/or suggested clinically or by ultrasound and confirmed by laparoscopy or laparotomy. We did not included patients with suspected of ovarian malignancy.

The sample was composed by matching randomly each case of laparoscopy with two cases of laparotomy. Patients were divided into two groups:

a group operated by laparoscopy constituting the study population (40cas) and a group operated by laparotomy constituting the control group (80cas). The operators were trained obstetricians practicing laparoscopy.

Our endoscopy equipment consisted of a brand STORZ column. The instruments were made by trocars 5 and 10 millimeters, scissors, mono and bipolar coagulation forceps and accessory equipment consists of cables, suction and irrigation pipes.

Both procedures performed were as follows:

- *In laparoscopic surgery:* prior to creation of the pneumoperitoneum needle VERESS closed stomach after the safety test, or Open laparoscopy. Which it follows by the introduction of trocars (Optical 10mm umbilical trocar addition, operating trocars of 10mm and above the pubic and 5mm in the left iliac fossa). One then proceeds to the delivery of intestinal loops with an atraumatic forceps, that before exploring the abdominal-pelvic cavity. Two operative procedures were possible: either intraperitoneal cystectomy (cyst under 10 cm), through an incision and detachment of the peritoneum allowing the release of the cyst, followed by puncture and extraction thereof by the above trocar pubic of 10 mm; or cystectomy transparietal when the cyst was bulky than 10cm, this by puncture of the cyst, followed by externalizing the wall after expansion on 3-4 cm from the 10 mm trocar port, and terminated by the enucleation and removal of the shell.

- *In laparotomy:* This was practicing the skin incision using the technique of Pfannestiel or Mouchel followed by abdominal-pelvic cavity exploration and then to carry out the surgical procedure.

We have considered the problem of exposure ovarian cyst, cases of preventing large cysts to explore it in full.

For each patient we have analysed the general characteristics (age, parity, history, indication); per the operating parameters (type of anesthesia, blood loss, consumables used, and duration of surgery in minutes); post-operative parameters (pain of surgical site appreciated by the verbal scale, total length of stay); and the cost of the intervention.

The collected data were entered using an ear 3.1 software data and information analysis was performed on Epi Info 3 .5.3.

The comparison of categorical variables between the two types of interventions was established by means of a 2 x 2 contingency table. The chi-square (χ^2) statistical difference was determined using the test or the Fisher exact test when expected value in the contingency table result less than 5%, and the probability threshold.

As for the comparison of quantitative variables, the observed difference between the two interventions was checked by applying the t-Student test.

RESULTS

Forty laparoscopies were conducted among 132 cases of ovarian cysts surgery, or 30.3%.

The following general characteristics: age, parity, and history showed no significant difference between the two groups. While the symptoms that led to the surgical procedure were different between the two groups (Table 1).

Anesthesia was exclusively general in laparoscopy, and in 85% of cases in laparotomy.

Intraperitoneal cystectomy was the most accomplished gesture in both groups. The operational difficulties were encountered in exposure laparoscopy with laparotomy in 2 patients. The serous cysts were the most common surgery in laparoscopy compared to other histological varieties (Table 2).

The mean operating time was significantly higher compared to laparotomy from laparoscopy when cystectomy was intraperitoneal (45.7 ± 17 min vs. 30 ± 7 min, $p < 0.05$). Conversely, the time was longer in laparoscopic cystectomy when was transparietal (mean 65 ± 5 min).

The blood loss was less in laparoscopy, as well as the use of fluids and consumables intraoperatively (Table 3).

Postoperative pain was significantly less in laparoscopy, and the mean hospital stay (1.5 ± 0.5 (1-2j) vs. 4.2 ± 0.8 (4-5j); $p < 0, 05$). However, the postoperative course was uneventful in both groups.

The average direct cost of the intervention was reduced by laparoscopy (123445 ± 460 vs. 192 ± 780 .160 CFA francs. $p < 0.05$) (Table 4).

The aesthetic benefit in terms of postoperative scar was better after laparoscopy compared to laparotomy.

DISCUSSION

Laparoscopic surgery for ovarian cysts represents 19.50% of gynecologic procedures performed (3). The low rate of ovarian cyst surgery by laparoscopy is still a reality in developing countries, evidenced by the results of Pither (4) in Gabon, which operated 26/120 cases, or 22%. In Europe laparoscopic surgery for ovarian cyst has become the Gold Standard for the treatment of benign lesions (5, 6). The difference between our country and those of Europe is likely due to the lack of technical equipment and personnel trained in the practice of laparoscopy in developing countries.

Intraperitoneal cystectomy was more practiced in accordance with the literature (7, 8). Achieving cystectomy transparietal was justified by a larger than 10 cm and/or the dysembryonnic content of the cyst. Moreover, adnexectomy and oophorectomy were performed when the state of these bodies did not allow their conservation, it, whatever the age of

the patient. Our conversion rate is low. However, the conversion rate varies according to the authors, because dependent on the surgeon's experience and the constraints of the operating environment. Our laparotomy rate is lower than 19% reported by Cissé (9) and 2.63% by Pither (4), which spoke of operational difficulties justifying the conversion of laparoscopy to laparotomy. This is true in countries with higher technical platform to ours to the example of Pierluigi (10) in Australia. In France Dargent (11) found the lower conversion rate to ours, confirming the notion that the conversion rate is dependent on the operator's inexperience.

As for the time to be in laparoscopy, it depends not only on the experience of the operator, but also the inadequacy of the technical platform.

We found that the hospital stay was shorter after laparoscopy, that according to the literature (6, 7, 12). This would be the result of a low morbidity observed after laparoscopic surgery.

Finally, we also noticed that the cost of laparoscopy has been minimized compared to laparotomy, probably because of the reduced use of consumables, medicines, and shorter hospital stay in the laparoscopic group.

In conclusion, the comparative study of surgery ovarian cyst by laparoscopy compared to laparotomy allowed us to confirm the progress and benefits of the practice of laparoscopic surgery at the UHB. Also, the performance of our department allows us to promote the advancement of laparoscopic surgery by other teams practicing gynecologic surgery.

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