
ORIGINAL ARTICLE

Pioneering Laparoscopic General Surgery in Nigeria

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ABSTRACT

Background: Laparoscopic Surgery has revolutionized surgical operations due to its unique advantages of a shorter hospital stay, minimal surgical trauma and a better cosmetic outcome. There are a few reports from Nigeria reporting laparoscopic surgery in gynaecology. To the best of our knowledge, there has been no reports on laparoscopic general surgery from Nigeria. We therefore wish to document our experience with laparoscopic general surgery in Nigeria. **Patients and Methods:** This was a prospective analysis of all consecutive patients presenting for laparoscopic surgery at Adoose Specialist Hospital Jos from June 2008 till date. **Results:** A total of 24 laparoscopic surgeries were performed during the study period. The mean age of the study population was 39.4 ± 11.5 years with age range of 18 to 65 years. There were 4 males and 20 females (M: F=1:5). The main surgeries performed included cholecystectomy in 13 (54.2%) patients, appendicectomy in 7 (29.2%) and adhesiolysis in 3 (12.5%). There was one conversion in this study giving a conversion rate of 4.1%. Identifiable co-morbid factors were seen in 7 patients (29.2%) **Conclusion:** Laparoscopic general surgery is feasible in Nigeria; it is a safe and reliable way of conducting abdominal operations that should be encouraged in developing countries.

Keywords; laparoscopic general Surgery, safety, Challenges, Nigeria

INTRODUCTION

Laparoscopic surgery has revolutionised general surgical operations. It has the unique advantages of a shorter hospital stay, minimal surgical trauma and a better cosmetic outcome^{1,2}. Laparoscopic abdominal surgical operations came to limelight in 1980 when Kurt Semm a German Gynaecologist performed the first laparoscopic appendicectomy^{3,4}. The successful performance of laparoscopic cholecystectomy by French Surgeons in 1986 led to the explosion of laparoscopic surgery in the western world. Presently, laparoscopic surgery is the gold standard for many abdominal operations. In Africa, laparoscopic surgery is still at its infancy due mainly to poverty and lack of political will. Raiga et al⁵ in 1994 lamented the difficulties inherent in adopting laparoscopic surgery in Cameroon and blamed the prevailing poverty state, while Pallas et al⁶ believed that the practice of laparoscopic surgery in Africa should be limited to selected surgeries in selected patient

population because of the high cost. However it is on record today that almost all kinds of laparoscopic surgeries are being performed in different parts of Africa^{1,2,7,10}.

In Nigeria, there have been few studies reporting the use of laparoscopy for diagnosis purposes¹¹⁻¹³. There were three Nigerian reports of therapeutic laparoscopic Surgery we came across and include the reports of successful laparoscopic retrieval of a perforated intrauterine contraceptive device¹¹ and a laparoscopically assisted vaginal hysterectomy from eastern Nigeria¹². Adisa¹³ in Ile-Ife recently reported successful conduct of appendicectomy and cholecystectomy laparoscopically. We therefore wish to document our experience with laparoscopic general surgery in Nigeria.

PATIENTS AND METHODS

This was a prospective analysis of laparoscopic surgery procedures at Adoose Specialist Hospital Jos from June 2008 till date. All patients that gave consent and could afford the surgery were included in the study.

All patients had clinical and ultrasound evaluation in addition to laboratory investigations to confirm their diagnosis and to

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detect co-morbidities. All procedures were carried out under general anaesthesia with a cuffed endo tracheal tube. Access was via the open cut-down technique through the umbilicus directly into the peritoneal cavity without a need for Verre's needle. Visibility was afforded by a 33cm long zero degree laparoscope mounted over a Stryker camera and light source after achieving pneumoperitoneum with carbon dioxide (CO₂) gas at a pressure of 10-14mmHg.

All procedures were performed via four ports except for the appendicectomies which were carried out via three ports. Data were analysed for age, sex, and diagnosis of the patients, duration of surgery and duration of hospital stay, co-morbidity, type of operation carried out, previous abdominal scar and conversion, using Epi-info version 3.3.2 of February 9 2005, and presented as simple means and percentages.

RESULTS

A total of 24 laparoscopic surgeries were performed during the study period. The mean age of the study population was 39.4±11.5years (range: 18 to 65 years). There were 4 males and 20 females. Thirteen patients (54.2%) had cholecystectomies, 7 (29.2%) had appendicectomies, 3 (12.5%) had adhesiolysis and 1(4.1%) had excision of a symptomatic splenic cyst. There was one conversion in this study (conversion rate of 4.1%) due to difficulty defining anatomy due to adhesions. Identifiable co-morbid factors were seen in 7 patients (29.2%); these were obesity in 6 patients and controlled hypertension in one.

Surgeries lasted between 40 to 125 minutes with an average duration of 71.5 minutes

All patients were discharged within 2 days of operation except for the conversion that was discharged after 5 days. Postoperatively, one (4.1%) patient developed umbilical port site infection following a cholecystectomy which resolved with antibiotic and wound dressing. There was no mortality in this study.

Table 1 Type of Surgeries performed

Operation	No	(%)
Cholecystectomy	13	54.2
Appendicectomy	7	29.2
Adhesiolysis	3	12.5
Splenic Cyst Excision	1	4.1
TOTAL	24	100

The challenges encountered during the study included lack of Verre's needle (for which we used the open for umbilical port insertion and insufflations), and removed specimens were delivered without retrieval bags.

DISCUSSION

The female preponderance in this study suggests that patronage of laparoscopic surgery is more among young female patients, with cholecystectomy as the most commonly performed operation. This finding agrees with the those of Parkar et al³ in their reported experience with laparoscopic surgeries in Nairobi. This could be related to the higher incidence of cholecystitis in females than in males. Also, a better cosmetic outcome of laparoscopic surgery may have influenced the greater preference for the laparoscopic cholecystectomy among the females.

The mean operating time in this study compares favourably with the mean operating time of 159 minutes reported by Murphree and colleagues² in their initial report of laparoscopic cholecystectomy in Zimbabwe. This operating time could be shorter in the hands of experienced surgeons that have overcome the learning curve.

There was a 4.1% conversion rate in this study is less than the two digit conversion rate reported in other studies in the African continent^{1,2,9,10,12,15}. This is probably because the Surgeons in this study carefully selected the cases and the study population was small.

The mean post-operative hospital stay in this study compares favourably with other reports from other parts of Africa.^{2,3} A study from Ghana on day case laparoscopic surgery, however, reported a high level of patient dissatisfaction with this procedure mainly because they felt they had not recovered fully before discharge¹⁶. This underscores the fact that it may take some time before African patients accept laparoscopic surgery as a day case procedure.

One patient (4.1%) had port site infection following laparoscopic cholecystectomy for empyema of the gall bladder. We considered this figure as low by the authors considering that the specimens were delivered without retrieval bags. The routine use of prophylactic antibiotics in this study may have accounted for this low infection rate.

In conclusion, laparoscopic surgery is a safe

and reliable way of conducting a variety of abdominal operations in carefully selected patients. Laparoscopic surgery undoubtedly has prospects in Nigeria, and its wide acceptance will likely increase as the learning curve of the operating surgeons improves³. However, the Surgeon must be innovative and adept at improvisation to sustain this practice in our setting.

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