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Case Series

Laparoscopic surgery for ectopic pregnancies in peripheric hospital: about 7 cases at Amath Dansokho regional hospital in Kedougou, Senegal

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ABSTRACT

We report 7 cases of laparoscopic management of ectopic pregnancy but also the benefits and limitations of laparoscopic surgery in rural areas. This was a series of cases of ectopic pregnancy managed with laparoscopic surgery at the maternity ward of Amath Dansokho regional hospital of Kedougou from January 01 2023 to October 31 2023. We recorded 7 cases of ectopic pregnancy managed by laparoscopy. In 5 patients, it was an ectopic pregnancy complicated with hemoperitonea. The pregnancy was ampullary in most cases and cornual in one patient. The procedure consisted of a total salpingectomy in all 6 patients and a salpingotomy in one patient who had a history of total salpingectomy on the contralateral tube. The average duration of the operation was 45 minutes. Laparoscopic surgery is the gold standard for surgical treatment of ectopic pregnancy. It results in lower morbidity, less impact on reproductive health and a quicker return to normal activity. Through these advantages, it is well adapted in our environment, where the average distance to a health facility is 37 to 42 km.

Keywords: Ectopic pregnancy, Laparoscopy, Rural environment

INTRODUCTION

Ectopic pregnancy is one of the most frequent causes of maternal mortality and morbidity during the first trimester of pregnancy and its incidence is 1.3 to 2% of reported pregnancies and 6% of all pregnancy-related deaths.[1] In Senegal, the prevalence is estimated around 0.6 per 1,000 expected pregnancies.[2]

The majority of tubal ectopic pregnancies are managed surgically. Salpingectomy was one of first surgical procedures to be performed by laparoscopy (1973). Laparoscopy is the gold standard in surgical management of ectopic pregnancy.[3] This surgical approach is preferable to laparotomy due to its many advantages, such as shorter operation time, less intraoperative blood loss, shorter hospital stay, lower cost, lower analgesic requirements and less adhesion formation.[4] However, it requires the availability of resources, surgical skills training and a stable hemodynamic patient. We report 7 cases of extra uterine pregnancy managed by laparoscopy at Kedougou regional hospital which is a rural hospital 700 km from Dakar, Senegal's capital.

CASE SERIES

Case 1

This was an 18-year-old nulliparous patient admitted for bleeding and chronic pelvic pain. Pelvic ultrasound revealed an ectopic pregnancy of the left tube complicated by a hemoperitoneum. Laparoscopy confirm the

diagnostic and an anterograde salpingectomy was performed. The surgical procedure lasted 45 minutes. The hemoperitoneum aspirated was 300 ml.

Case 2

A 30-year-old patient, nulliparous, admitted with pelvic pain in the last 2 weeks and amenorrhoea of 2 months with positive pregnancy test. Ultrasound revealed a 4 cm heterogeneous latero-uterine mass with an empty uterus. Endoscopic exploration revealed an ectopic pregnancy located on the left uterine cornua (Figure 1A). Salpingectomy was performed. Blood loss was minimal and the operation lasted 1 hour.

Case 3

A 20-year-old nulliparous admitted for vaginal bleeding associated with acute pelvic pain after 2 months amenorrhoea with a positive pregnancy test. Ultrasound revealed a ruptured right extra uterine tubal pregnancy with medium-sized hemoperitoneum of 200 ml, biological tests revealed anemia of 8 gm/dl, diagnosis was confirmed in laparoscopic examination (Figure 1 B1). A laparoscopic right salpingectomy was performed (Figure 1 B2). Blood loss was 200 ml and procedure lasted 40 minutes.

Case 4

A 27-year-old with 3 deliveries admitted for acute pelvic pain after 7 weeks amenorrhoea with a positive pregnancy test. Ultrasound revealed a ruptured right extra uterine tubal pregnancy with a medium-sized hemoperitoneum of 250 ml. A laparoscopic right salpingectomy was performed. Blood loss was 200 ml and the procedure lasted 60 minutes (Figure 1C).

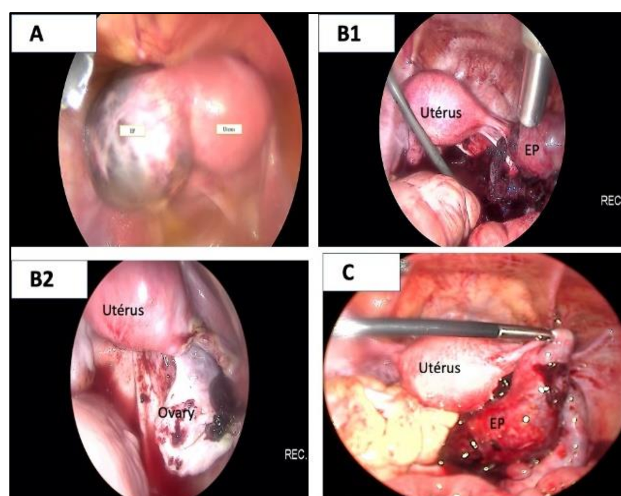

Figure 1: Laparoscopic examination, ectopic pregnancy of 4 cm on left uterine cornua, ruptured right extra uterine tubal pregnancy with a medium-sized hemoperitoneum view after right salpingectomy and ruptured right extra uterine tubal pregnancy with a medium-sized hemoperitoneum.

Case 5

A 30-year-old patient with no living children. She as history of abortion in the first pregnancy followed by a caesarean section for fetal distress in her second pregnancy, the child died after 4 days. In the 3rd pregnancy a right salpingectomy by laparotomy was performed for tubal ectopic pregnancy. She was admitted for minor bleeding and pain with amenorrhoea of 6 weeks. Ultrasound revealed an unruptured left tubal extra uterine pregnancy measuring 3 cm in diameter. Laparoscopic exploration revealed various grade 3 adhesions, a right salpingectomy stump and an interstitial tubal ectopic pregnancy measuring 3 cm (figure salpingotomy using a monopolar hook incision (Figure 2 B) followed by hydrodissection and extraction of the product were performed (Figure 2 C). The tube was not sutured and the procedure lasted 50 minutes.

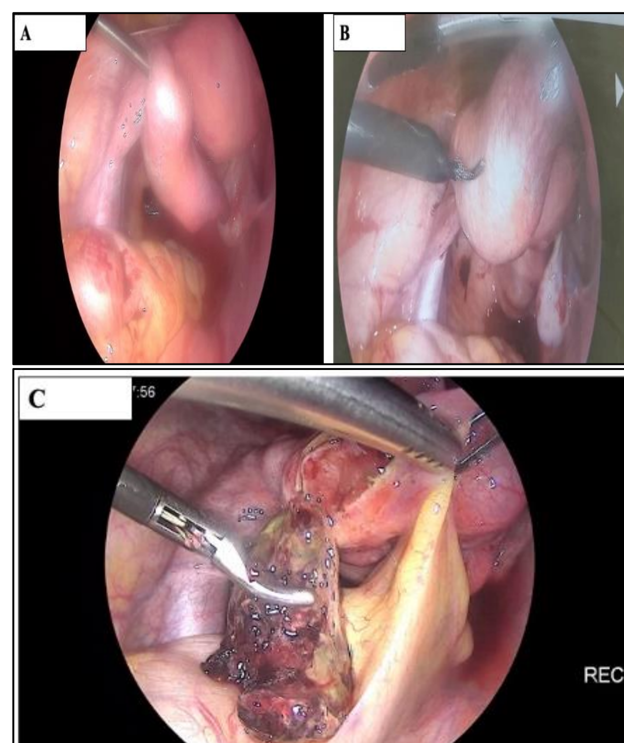

Figure 2: Salpingotomy procedure. Interstitial tubal ectopic pregnancy, monopolar hook incision and extraction of the product after hydro dissection.

Case 6

This is a 23-year-old patient of 5th gestation, 2nd parity and an abortion history transferred from a health center for pelvic pain. Clinical and paraclinical examinations concluded to a ruptured left tubal ectopic pregnancy with moderate hemoperitoneum complicated by anemia at 9 gm/dl. Laparoscopic exploration found Chlamydia type adhesions taking over the appendix and the posterior wall of the uterus and a ruptured tubal ectopic pregnancy. She underwent a total salpingectomy and the blood loss was 500 ml. The procedure lasted 40 minutes.

Case 7

A 25-year-old patient, 4th gesture, 2nd pare, admitted for pelvic pain over 3 months amenorrhoea. She had undergone a right salpingectomy for an ectopic pregnancy. The clinical and para clinical examination revealed a ruptured extra uterine pregnancy. Laparoscopic exploration found: Various adhesions involving the right ovary and the anterior abdominal wall, left total salpingectomy stump, small hemoperitoneum and ruptured extra uterine pregnancy with distal tube contained in an adherent magma with the left ovary.

She underwent a total salpingectomy after adhesiolisis and the hemoperitoneum was 200 ml. The procedure took 50 minutes.

DISCUSSION

Laparoscopic treatment of EP is a safe and perfectly reproducible technique. This approach offers several advantages in improving the patient's quality of life, fast recovery resulting in a shorter length of hospitalization and aesthetic benefits.[5] Over time, with improvements in perioperative management of the hemodynamic condition by anesthesiologists and intensive care, as well as an increase in the technical skills and expertise of surgeons, the laparoscopic indications have been extended to patients with a history of pelvic surgery and those with hemodynamic instability. Indeed, even with massive hemoperitoneum laparoscopic surgery can be performed safely by experienced laparoscopists with the aid of optimal anesthesia, advanced cardiovascular monitoring, intraoperative autologous blood transfusion and postoperative intensive care.[6] In our series, laparoscopy was performed only in patients with a stable hemodynamic state. Our hospital is a new structure opened in 2021 located in a rural area 700 km from the capital. Due to his geographical location, the hospital faces a lack of quality human resources. Only one surgeon has the skills in endoscopy (discontinuous surgical offer), the anesthetists are often reluctant and inexperienced in laparoscopic surgery, and assistants are poorly qualified.

The surgical procedure will depend on pregnancy term, the local conditions or a desire for future pregnancy; salpingectomy (radical treatment) or salpingotomy (conservative treatment) may be carried out. In our series only one patient had a conservative treatment and the six others patients had salpingectomy. In most of patients, the diagnosis was established after tubal rupture. This can be explained in part by the specificity of Kedougou. The population is highly variable, cosmopolitan and mobile. Access to healthcare facilities in an area with a population density of 11 people per square kilometer is no easy task. Alongside demographic aspects, limited financial resources, isolation and the inaccessibility of ultrasound are factors that delay diagnosis in rural areas.

In our series, the average duration of the procedure was 49 minutes and the average length of hospitalization was 2 days. We did not notice any post operative complications. The majority of patients lived in bush and postoperative wound dressing was done by the nurse at the health center that was most accessible to the patient's home.

Given these many advantages in rural areas, the real challenge is to ensure continuity of laparoscopic surgery for EP. There is, indeed, only one absolute contraindication to laparoscopy: the surgeon's inexperience. The training of physicians and operating room staff in the technique of laparoscopic treatment of an EP by electrosurgical is necessary. Unfortunately, in Senegal operative laparoscopy training was not included in obstetric and gynecological residency training. This skill will be acquired secondarily in one-year training/certification process. However, this training requires a long apprenticeship with a senior surgeon. In addition, the endoscopy column and instruments are expensive. Preventive maintenance of the equipment and the full replacement of instruments such as laparoscopic scissors, biopsy and grasping forceps, bipolar forceps, unipolar needle, will be necessary.

CONCLUSION

Laparoscopic surgery is the gold standard for surgical treatment of ectopic pregnancy. It results in lower morbidity, less impact on reproductive health and a quicker return to normal activity. through these advantages, it is well adapted in our environment, where the average distance to a health facility is 37 to 42 km. The limits of this technique were lack of training of physicians and assistant and maintenance and full replacement of the equipment.

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