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Ectopic pregnancy at university hospital center point g in Mali: Medical treatment versus Laporoscopical surgery

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Abstract

Objectives: The aim of this work is to compare the results of the management of the USG with methotrexate medical treatment and laparoscopy at the "G" Point CHU.

Patients and Method: This was a descriptive retrospective study over five years (January 2010 to December 2014) in the General and Laparoscopic Surgery Department and the Obstetrics and Gynecology Department of the Point "G" UHC. Patients treated for tubal location GEU were included either by medical treatment with methotrexate or laparoscopy

Results: The clinical records of 61 patients were collected and divided into two groups: a medical treatment group (GM) with 29 patients and a laparoscopy group (CG) with 32 patients. UEM accounted for 1.8% of obstetric emergencies in GM and 2.2% of laparoscopic surgery activities in the GC. The average age of patients in both groups was 32.3 years with extremes of 16 years and 42 years. The amenorrhea triad pelvic pain and metrorrhagia was found in 42% in the GC and 22% in the GM. Uncomplicated haematosalpinx was observed in 82.7% in GM vs 40.6% in GC. Failure of medical treatment was observed in 31%. Salpingectomy for laparoscopic surgery was performed in 6.3%. The return to fertility was observed in 15.4% in GM including 10.4% term pregnancies and 5% recidivism vs. 25% in the GC with 15.6% term pregnancies and 9.3% recidivism. Mortality was zero in both groups.

Conclusion: Both methods are feasible and reproducible in the context of working at the "G" Point Hospital Center at the cost of respect for the indications, each having proved its advantages and its limits.

Keywords: EP, methotrexate, laparoscopy, point G

Introduction

In Mali, ectopic pregnancy (EP) is the second most common gynecological and obstetric emergency after caesarean section [1]. It is the leading cause of maternal death in the first trimester of pregnancy and may compromise subsequent fertility. The current existence of early stage diagnosis means that new, less invasive therapeutic possibilities have emerged. The objective is to limit the therapeutic morbidity, the risk of recurrence and to preserve the subsequent fertility [2]. The choice remains controversial in our working context between medical treatment and laparoscopic surgery, each with its advantages, constraints and limitations. The aim of this work was to compare the results of the management of EP with medical treatment with methotrexate and laparoscopic surgery at University Hospital Center of Point G

Patients and Methods

This was a descriptive retrospective study from January 2010 to December 2014 in the Department of General Surgery and Laparoscopic and the Gynecology-Obstetrics Department of the University Hospital Center of Point G. Patients were included in charge for tubal EP either by medical treatment with methotrexate (MTX) or laparoscopic surgery. Non-tubal EP and cases of laparotomy conversions weren't included. The diagnosis was based on clinical signs, results of biology and pelvic ultrasound. A standard assessment of operability was performed for all patients. These include rhesus blood grouping, blood count, and blood glucose and serum creatinine. The indication of the conservative treatment was based on the absence of clinical suggestive signs of tubal rupture and also on the existence of stable hemodynamic state. Either a Fernandez score <13. The medical method used a protocol of treatment with methotrexate according to the protocol:

- D0: MTX 1mg / kg in IM
- D4: assay of ßHCG if 15% decrease in D0, assay at D 7
- D7: assay of ßHCG if J7 <J4, patient output with outpatient

Follow-up and weekly determination of ßHCG until negativation. Failure was observed following rupture of haematosalpinx, persistence and / or increase of ßHCG after administration of the second dose of MTX. The continuation of the care was done by laparotomy or laparoscopy. The surgical method used a laparoscopic column placed at the foot of the table with instrumentation made of mostly reusable devices. All patients were placed supine and operated under general anesthesia with curarization and orotracheal intubation. The introduction of the optical trocar 10 mm in umbilical was performed after open laparoscopy and a trocar of 5 mm in each of the iliac fosses under

visual control. The first step consisted of an exploration of the peritoneal cavity and an improved pelvic exposure by the Trendelenburg position. In the case of hemoperitoneum, peritoneal clean was performed using an irrigation-aspiration system connected to a strainer cannula. At the end of this exploration, the diagnosis of the EP was confirmed and the anatomical location specified. The surgical procedure was a function of Pouly's therapeutic score [3]. The rule is at best the conservative treatment of the trunk with salpingotomy, tubo-peritoneal abortion or tubal trans-epileptic expression. Hemostasis was achieved by coagulation with bipolar bistoury. The studied parameters were: the anatomical localization, the evolutionary stage, the feasibility of the method, the factors of the failure, the benefit / risk ratios. The opinion of the ethics committee was taken into account and the anonymity of the patients was respected.

Results

The clinical records of 61 patients were collected and divided into two groups: a medical treatment group (GM) with 29 patients and a laparoscopic group (CG) with 32 patients. EP accounted for 1.8% of obstetric emergencies in GM vs. 2.2% of laparoscopic surgery in the GC. The average age of patients in both groups was 32.3 years with extremes of 16 years and 42 years. A history of urogenital infections was found in 77.1% in the GC and 60.3% in the GM. Amenorrhea was present in all patients, the association pelvic pain and metrorrhagia was found in 42% in the GC vs 22% in the GM. The right tubal location was 80% in the GC vs 66% in the GM. The fallopian tube EP was 37% ampullary and 52% infundibulum in GC vs 21.6% and 48% in GM. The contralateral fallopian tube was normal in laparoscopy in 68% of cases and absent in 6%. About 1/3 (34.3%) GC patients had ruptured EP while 82.7% of GM patients had uncomplicated haematosalpinx (Table 1). Salpingotomy was the most commonly performed surgical procedure, 62.5% (Table 2). One in three patients did not perform the assay at the D4 of treatment in GM and when the assay was performed there was a decrease in BHCG in 86% (Table 3). We recorded 9 cases; 31% of therapeutic failure in CM (Table 4). The return to fertility was observed in 15.4% in the GM: 10.4% of term pregnancies and 5% of recurrence of EP vs 25% in the GC with 5 term pregnancies, 2 EP and 1 case of spontaneous abortion. We didn't recorded any maternal deaths or postoperative complications during our study in both groups. The discharge was authorized on D3 postoperative in 89.5% in the GC and on D7 hospitalization in 69% in the GM. The average cost of laparoscopic management was 153,000 CFA francs and 37,000 ± 12,000 CFA francs for medical treatment.

Table 1: Stage of the EP at admission

Evolutionary stages	Groups				
	GM		GC		
	Number	Percentage	Number	Percentage	Total
Hematosalpinx uncomplicated	24	82,7	13	40,6	37
Hematosalpinx fissure	5	17,3	6	18,8	11
Tubo-peritoneal abortion	0	0	2	6,3	2
Tubal rupture	0	0	11	34,3	11
Total	29	100%	32	100%	61

Table 2: Laparoscopic Gestures

Gestures	Number	Percentage
Salpingectomy	2	6,3
Salpingotomy	20	62,5
Tubo-peritoneal abortion	2	6,3
Tubal transplanter expression	5	15,6
Suction-washing	3	9,3
Total	32	100,0

Table 3: Evolution of EP at J4 in GM

Evolution	Number	Percentage
Increase ßHCG	3	10,3
Decrease ßHCG < 15%	4	13,8
Decrease ßHCG 15-50%	2	6,9
Decrease ßHCG 50-80%	3	10,3
ßHCG > 80%	4	13,8
ßHCG not measured	9	31,1
Tubal rupture	4	13,8
Total	29	100,0

Table 4 : Becoming a EP after medical treatment

Final Evolution	Number	Percentage
Healing after 1st dose of MTX	13	44,8
Healing after 2nd dose of MTX	7	24.2
Absence of healing (Breaking)	9	31
Total	29	100,0

Discussion

The limitations of the study were marked by the retrospective nature, the sample size in both groups and the patient selection criteria including only certain categories of EP. The EP frequencies of 1.8% observed during this study are comparable to that found in Niger by NAYAMA [4] which reported a frequency of 2.32%. The average age of the patients was 32.3 years with extremes of 16 and 42 years. These results are comparable to those of the literature because it corresponds to the period of active sexual life and fertility favorable to urogenital infections found in 77.1% in the GC and 60.3% in the GM of our study. The triad, amenorrhea pelvic pain and metrorrhagia was

found in 42% in the GC and 22% in the GM of our study. It has a negative predictive value on the evolutionary stage of EP and these complications. It was 58.5% in the LOKOSSOU study in Benin in 2007 [5] and 78.5% in that of RANDRIAMBOLOLONA in Madagascar in 2012 [6]. The right fallopian tube was 80% affected in the GC and 66% in the GM in our study. In addition, the seat of the USG on the trunk was 37% ampullary and 52% in the GC, it was 21.6% ampullary and 48% infundibulum in GM. The location was different according to the literature. Thus BOUYER J. [7] found a localization at 10.1% and 68.1% of the spinal cell (P <0.05). The contralateral trunk was macroscopically satisfactory for laparoscopy in 68% of cases, pathological in 13% not described in the GM in our study. The size of the EP wasn't described in our series. However in the study of BOUDHRAA K. [8] it was described in 37.7% with an average of 3.17 cm. In the literature, it constitutes a criterion of choice in the therapeutic decision. A size> 4 cm appears as a limit to conservative treatment. Hemoperitoneum following rupture of the tube remains quite common. It was found at 33.3% (N = 16) in the GC with an average amount of 340 cm3, related to a delay in diagnosis or management. No tubal rupture was recorded in the GM at the initial stage which was in agreement with the indication of this method reserved exclusively for uncomplicated forms. The quantity of hemoperitoneum is a criterion of gravity. Although it is in sharp decline in the developed countries, it is still a concern in the African series. In the GM the protocol chosen was that of multiple doses with methotrexate intramuscular injection at a dose of 1 mg / kg. Due to its tropism for trophoblast's cells, MTX makes a partial but sufficient destruction of the cells to interrupt the endogenous hormonal signal and causes the regression of the EP. A decrease in ßHCG was observed in 44.8% during the first D4 after treatment with 85% negativity at the end of the first month of surveillance. This result is similar to that found in our previous study on the medical treatment of EP during which we observed a negation of the βHCG level in 85% of patients during the first month of surveillance [1]. Either the rates go up before starting a decrease, or they drop right away. This rise is due to two phenomena: the initial acceleration of ßHCG metabolism by MTX and trophoblastic cell destruction, which increases its systemic release. The level of ßHCG at the D7 must be well below the initial value of the 1st day, if it isn't the case, a second dose of MTX is recommended as it was the case in our series. An exacerbation of pain can be noted within 24 hours post injection and persist until the D4. It corresponds to the necrosis of the USG or tubo-abdominal abortion of EP and is described in 30 to 60% in the literature [6, 8, 9, 10]. Its occurrence requires performing an endo-vaginal ultrasound to assess the importance of haematosalpinx and quantify an associated haemoperitoneum. This endo-vaginal ultrasound was systematic in our series and revealed a haematosalpinx in 31% of GM thus confirm the failure of medical treatment. This result is similar to the one found in our previous study with 9 failure of 29 cases [1]. In developed countries, even if medical treatment is gaining ground, laparoscopic surgery is considered as the "Gold Standard" in the treatment more than 80% [7]. The surgical procedure was a Function of POULY's therapeutic score [3]. This is a decisional score based on antecedents and findings during laparoscopy. When the score> 4 a salpingectomy is required. The treatment was conservative in 93.7% of our study. This is> to that found by BOUDHRAA K [8] in 2008 with 63.8%. The improvement of the diagnostic conditions and the management of the EP over time could explain this difference. A success rate of medical treatment was observed in 69% in our series, it was 65 to 95% according to the series of FERNANDES and NIEUWKERK [9, 10]. This success was 55% in the series of NAYAMA [4]. NAZAC *et al* [11] found as a predictor of success, a ßHCG level of less than 1000 IU / l on a population treated with MTX intramuscular. In our series, beyond the common requirement of hemodynamic stability and diagnostic precocity in both groups, the advantages of both methods are overlapping. The return to fertility after EP was better in the GC with a 25% conception rate compared to 15.4% in the GM (P = 0.03), with no statistically significant difference in terms of recurrence. EP (5% GC vs 6.2% GM). These results are similar to those found in our previous study with 10.4% of term pregnancies after medical treatment of EP and one case of recurrence [1] In CG, the appearance of contralateral fallopian tube was not a factor influencing fertility but rather the future of pregnancy. The hospital stay was lower in the GC with 89.5% discharge at postoperative D3 compared to 69% at D7 hospitalization in the GM. The average cost of care remains high in the GC at 153,000 CFA against 37,000 ± 12,000 CFA in GM.

Conclusion

The management of EP by medical treatment with MTX or by laparoscopic surgery remains an advantageous alternative to the classic laparotomy long practiced in our context of work at the University Hospital Center of Point G at the price of compliance with the indications.

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