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Heterotopic Pregnancy in Natural Uninduced Cycles: A Case Series with Two Positive Outcomes in a Semi-urban Area in Cameroon

R Tchounzou[1,2], AG Simo Wambo[1,2], T Nana Njamen[1,3], François Dadao[5], Felix Elong[1,4], T Egbe Obintchemti[1,3], Gregory Halle Ekane[1,3]

Department of Obstetrics and Gynaecology, [1]Faculty of Health Sciences, University of Buea; [2]Regional Hospital Limbe, Maternity service; [3]Douala General Hospital; [4]Regional Hospital Bue; [5]Regional Hospital Garoua, Cameroon.

Corresponding Author:
Dr. R Tchounzou
Email: rtchounzou@yahoo.fr

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Abstract

Background: Heterotopic pregnancy is a rare occurrence in natural uninduced pregnancy, representing about 1/30,000 live deliveries. In remote areas where diagnostic and therapeutic resources like ultrasonography and laparoscopy are scarce, the intra-uterine component often results in miscarriage. *Case Report*: We report on a series of three consecutive cases out of 5987 live births with two positive outcomes. *Conclusion*: We conclude that in our settings the incidence of heterotopic pregnancy is high due to high prevalence of pelvic inflammatory diseases and recommend that during laparotomy for ectopic pregnancy, minimal trauma should be caused to uterus to safeguard a potential intra-uterine pregnancy.

Keywords: Abortion, Heterotopic Pregnancy, Live Birth, Pelvic Inflammatory Disease, Uterus.

Introduction

The incidence of heterotopic pregnancy is in the rise with the advent of assisted medical procreation. In natural uninduced cycle, it is still a rare event accounting for about 1/30000 pregnancies [1,2]. Most of the time, diagnosis of intra-uterine pregnancy is made retrospectively during the emergent laparotomy for ruptured ectopic pregnancy [3]. Many cases of heterotopic pregnancies reported in the literature are due to the use of clomiphene citrate for induction of ovulation or in the context of assisted reproductive technology (ART) [1,4]. If the condition is diagnosed pre-operatively with the use of ultrasound or laparoscopy and surgical techniques with minimal trauma to the uterus applied, the outcome of intra-uterine pregnancy development is good [5,6]. In poor countries with limited access to modern diagnostic and therapeutic tools like ultrasound and laparoscopic equipment, cases of heterotopic pregnancies reported usually result into wastage of intra-uterine pregnancy.

We report on three cases with two consecutive term deliveries after total salpingectomies for ampullary ruptured ectopic pregnancies in a period of six years from August 2009 to August 2015 in the Limbe regional hospital.

Case Reports

Case 1

A 26 year old patient, G1P0, with imprecise last menstrual period consulted for amenorrhea and metrorrhagia and was diagnosed of missed abortion at ultrasound. She benefited from uterine evacuation by means of aspiration and the product of conception sent for pathology confirmed picture of missed abortion. On discharge, patient complained of pelvic pains one week after, of increasing intensity associated to vomiting, fatigue. These symptoms prompted hospitalization in a peripheral hospital where she received a treatment including pains killers with no remarkable effect

on pains. The patient was referred back to us when the pains became unbearable.

Physical examination elucidated an anxious patient well oriented in time, space and person; vital signs were stable (BP 118/70 mm Hg, pulse 84/min, temperature 37.2°C). A pelvic painful mass deviated to left; about 10 cm of diameter was felt on vaginal examination. We clinically suspected torsion of ovarian cyst or uterine fibroid. An urgent ultrasound demonstrated a left tubal pregnancy with a living fetus of 12 weeks. An emergency laparotomy was done which confirmed the ruptured left ampullary pregnancy with hemoperitoneum of 200 ml. Left total salpingectomy was performed and the post-operative period was uneventful **[Fig.1,2]**.

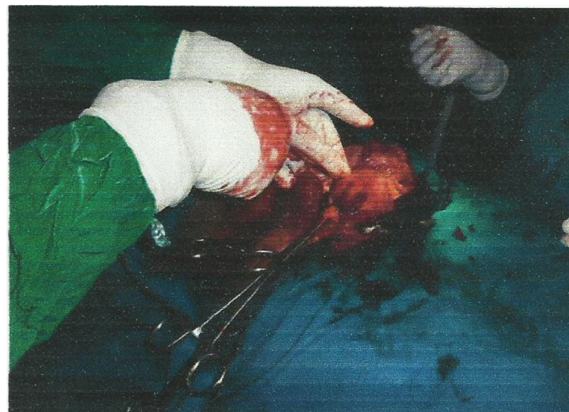

Fig.1: *Left ampullary ruptured ectopic pregnancy, ruptured during operation, fetus still in the amniotic pouch.*

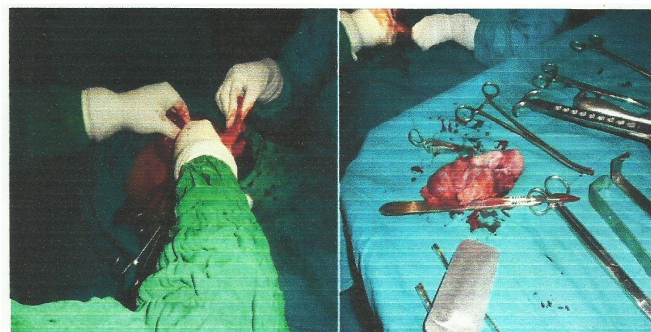

Fig.2: *Salpingectomy with live fetus.*

Case 2

A woman of 30 years old, with two living children and one abortion was received in the emergency unit with clinical picture of hemoperitoneum confirmed by a paracentesis and a positive pregnancy test. In the course of the surgery during which we performed a right total salpingectomy, we suspected an intra-uterine pregnancy. We avoided grasping the uterus with Hysterolap and thus did little manipulation on the uterus. The contralateral adnexae were macroscopically normal and there were no pelvic adhesions. In the immediate post-operative period a pelvic ultrasound was performed which confirmed a nine weeks and three days gestation. Etiological investigations included a Chlamydia serology which depicted a positive IgG at 1/128, vaginal smear and sensitivity test and urogenital Mycoplasma which were negative. The patient was placed on natural progesterone 200 mg/day for 11 weeks. She benefited from a monthly antenatal visit and the pregnancy evolved uneventfully to normal vaginal delivery at 39 weeks of a live female baby.

Case 3

A 32 years old mother of one child with past medical history of secondary infertility of five years duration was rushed into the emergency unit of the hospital with severe abdominal pains, fainting on eight weeks and two days amenorrhea. The vital parameters on arrival were unstable with a blood pressure of 78/55 mm Hg and a pulse rate of 116 beats per minute; examination of abdomen demonstrated signs of distension and tenderness in favour of a peritoneal collection. A paracentesis was performed which revealed 10 millilitres of uncoagulable blood. The patient was operated the same day after cross-matching blood for eventual transfusion. Intra-operative findings included a right ampullary ruptured pregnancy, hemoperitoneum of 600 ml, flimsy pelvic adhesions involving fallopian tubes and small bowel, the contralateral tube was macroscopically normal; the uterus was increased in size.

We did right total salpingectomy after gentle adhesiolysis and aspiration of hemoperitoneum; little manipulation was done on the uterus. In the post-operative period, an ultrasound was done and an intra-uterine pregnancy of eight weeks described. A full blood count done showed a picture of normocytic anaemia of 7.4 g/dL but the patient refused blood transfusion thus was put on hematinics. Since she was keeping records of recent positive Chlamydia serology, no other investigations was done. The antenatal care consisted of a monthly check and the pregnancy progressed to term. She underwent an elective caesarean section at 39 weeks because of her unfavourable obstetric history and the outcome was a healthy male baby.

Discussion

Heterotopic pregnancy incidence is in the increase in the world with the development of assisted reproductive technologies (ART) but in the natural conception, this entity is still a very rare event [1,2,7]. The reported incidence of heterotopic pregnancy in natural conception is about 1/30000 live deliveries [1,2]. In our series we registered an incidence of three cases out of 5987 deliveries (1/1996) over a period of six years. This high incidence can be attributed to increasing incidence of pelvic inflammatory infections in our settings and the use of citrate of clomiphene (and sometimes the agonists of FSH) for ovulation induction in disorderly manner by patients. All the three patients of our series have positive Chlamydia serology and these factors have been described by many other authors like risk factors of ectopic and heterotopic pregnancies [1,8-10].

Most cases of ectopic pregnancies are diagnosed in our setting at the ruptured stage with hemo-peritoneum which warrants urgent laparotomy [11]. Kenfack *et al*. reported 92% of cases of ectopic pregnancies diagnosed when it is already ruptured [9,10]. In these conditions, heterotopic when it exists is often diagnosed retrospectively or in the course of surgery for the ruptured ectopic pregnancy. In 2 out of 3 cases, the diagnosis of heterotopic pregnancy was suspected during the emergency and life-saving laparotomy for treatment of ruptured ectopic pregnancy and the related shock. In such conditions, the outcome of the intra-uterine pregnancy depends on the trauma caused to the uterus or not. When the treatment of extra-uterine pregnancy is done through laparoscopy, minimal trauma is caused to the uterus and the outcome of intrauterine pregnancy can be up to 70% of viable term babies [5]. In the two cases which resulted into term deliveries, we suspected the presence of intra-uterine pregnancy based on the increased size of uterus and we minimized the manipulation of the uterus. Intra-uterine pregnancies were confirmed by echography in the early post-operative period. Due to the urgency of the situation and lack of financial means, no ultrasound was done before surgical intervention, the diagnosis being confirmed by paracentesis. In the first case, the extra-uterine component was missed despite the ultrasonography. This is consistent with the report of some authors that ultrasound can miss the diagnosis in absence of high index of suspicion [12]. Progesterone therapy (200 mg/day) was prescribed to the patients during the post-operative period although the supporting effect of progesterone on early pregnancy is controversial in the literature [13].

Conclusion

Heterotopic pregnancy incidence in natural conception is high in our milieu as compared to developed countries probably due to higher incidence of pelvic inflammatory diseases (PID). In remote areas, the diagnosis of intra-uterine pregnancy is usually done during the laparotomy for ruptured ectopic pregnancy. If minimal trauma is caused to the uterus during the surgery, the concomitant intra-uterine pregnancy can result in term viable baby.

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