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Case series

Management of heterotopic pregnancy in africa: 6 cases at the Center Hospitalier Mère Enfant de Libreville (Gabon)

Prise en charge de la grossesse hétérotopique en milieu africain : à propos de 6 cas au Centre Hospitalier Mère Enfant de Libreville (Gabon)

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Résumé

La grossesse hétérotopique est le développement simultané d'une grossesse intra-utérine et d'une grossesse extra-utérine. Il s'agit d'une situation rare. Nous avons décrit les aspects épidémiocliniques, échographiques et thérapeutiques ainsi que le devenir des grossesses intra utérine. Sur 10 mois, six patientes ont été prises en charge au centre hospitalier mère enfant de Libreville. Avec un taux de 2/1000, L'âge des patientes était compris entre 24 et 35 ans. Les facteurs retrouvés étaient dominés par les séquelles d'infections génitales. Quatre patientes ont consulté dans un état hémodynamique stable. La triade symptomatique classique était décrite chez toutes nos patientes.

Le diagnostic a été établi par l'échographie dans les 6 cas. Les signes extra utérins variaient d'une patiente à une autre. Une seule patiente a bénéficié d'une cœlioscopie. Les 6 femmes ont pu mener leur grossesse à terme.

Mots-clés : Grossesse hétérotopique, Libreville, Afrique, Gabon.

Abstract

Heterotopic pregnancy is the simultaneous development of an intrauterine pregnancy and an extrauterine pregnancy. It is a rare situation. We describe the epidemioclinical, ultrasonographic and therapeutic aspects, as well as the outcome of intrauterine pregnancies. Over a period of 10 months, six patients were treated at the Mother and Child Hospital in Libreville. With a rate of 2/1000, the patients' age ranged from 24 to 35 years. Factors identified were dominated by sequelae of genital infections. Four patients consulted with a stable hemodynamic state. The classic symptomatic triad was described in all our patients. Diagnosis was established by ultrasound in all 6 cases. Extrauterine signs varied from patient to patient. Only one patient underwent laparoscopy. All 6 women were able to carry their pregnancies to term.

Keywords: Heterotopic pregnancy, Libreville, Africa, Gabon.

Introduction

Heterotopic pregnancy is defined as the simultaneous development of an intrauterine pregnancy (IUP) and an extrauterine pregnancy (EUP), regardless of location. It is a rare pathological form of bi-ovular twin pregnancy, in which one of the nests is in the uterine cavity and the other is ectopic, most often in the fallopian tube. Its frequency varies according to the series: from 1/30,000 in spontaneous pregnancies to 1/100 during assisted reproduction (AMP) [1,2]. This frequency has risen sharply in recent years due to the development of MPA techniques and the resurgence of upper genital infections. This is an often unrecognized pathology that poses a diagnostic problem and can be life-threatening. The aim of this study was to describe the epidemiological, clinical, ultrasonographic, therapeutic and evolutionary aspects of spontaneous heterotopic pregnancy in an African context.

Case series

We report six observations of patients managed for heterotopic pregnancy in the gynecological emergency department of the Mother and Child Hospital in Libreville, Gabon. Over a 10-month period (July 2021 to April 2022). We analyzed the epidemiological data, the various clinical and ultrasonographic findings, as well as the therapeutic management of this pathology and the outcome of intrauterine pregnancies.

Case n°1

Mrs GNB, 27 years old, single, student. Consulted the emergency department for acute pelvic pain associated with minimal metrorrhagia that had been present for 5 hours. She also describes dizziness. She reports a long absence of menstruation, which we put at 11 weeks of amenorrhea. Her history includes: acute PID, 4 gestations, 1 parity, 3 abortions, 1 live child. She had multiple partners and regularly took emergency contraception such as the morning-after pill.

Clinical examination on admission revealed a patient in shock, with unstable hemodynamic constants: hypotension, accelerated pulse, tachycardia; conjunctival pallor, abdominopelvic guarding; on speculum, the cervix was closed, leaking minimal blackish-red blood; on vaginal touch, the uterus was enlarged; the douglas was filled and tender. Hemoglobin level was 6.7 g/dl.

Endo-vaginal ultrasonography revealed a progressive intrauterine pregnancy of 10 SA and 3 days. Examination of the adnexa revealed a left latero-uterine gestational sac containing an embryo with no cardiac activity, estimated at 9 SA. The uterus was bathed in an abundant effusion. The diagnosis of heterotopic pregnancy with ruptured ectopic pregnancy in shock was accepted (see image 1).

A laparotomy was indicated, revealing a ruptured ampullary tubal extrauterine pregnancy and an enlarged uterus the size of a large orange. We performed a total left salpingectomy and aspirated 1300 cc of hemoperitoneum. The patient benefited from a transfusion of packed red blood cells, antispasmodic tocolysis and delayed progesterone injection after laparotomy. She was discharged 3 days after embryonic vitality was checked. Ultrasound monitoring showed that the GIU was progressing well.

Histological study confirmed tubal EP. GIU was carried to term, giving birth to a female child by the natural route at 40sa, weighing 3560 grs.

Case n°2

Mrs MMP; 27, student, cohabiting. 4 gestité 3 parité, 1 abortion, 3 living children, repeated use of emergency contraceptive pill, several sexual partners to date, no notion of sexually transmitted infection.

She was taken to the hospital emergency department with hemodynamic instability, arterial hypotension

(74/40 mmHg), mucocutaneous pallor, asthenia, thirst and dizziness. All this evolved over 7 weeks of amenorrhea. Resuscitation measures were initiated. Emergency examination revealed an enlarged abdomen, dull on percussion, with a cry from the umbilicus.

Endovaginal ultrasonography performed in the patient's bed revealed: an evolving intrauterine pregnancy of 6sa and 4d, a heterogeneous right latero-uterine image associated with an abundant effusion. The diagnosis of heterotopic pregnancy was accepted (Cf image 2). Hemoglobin level 4g/dl, blood group rhesus A positive. She was rushed to the operating theatre, where a total right salpingectomy by laparotomy was performed in the face of a ruptured isthmic right extra uterine pregnancy. We aspirated 1800cc of hemoperitoneum. The patient was transfused with 2 red blood cells intraoperatively, then admitted to the intensive care unit for postoperative follow-up.

The patient underwent tocolysis (antispasmodic and delayed progesterone injection) after laparotomy, and an ultrasound scan to check embryonic vitality at D2 post-op was normal. Histological study confirmed tubal EP. GIU was carried to term, giving birth to a female child by the natural route at 36SA, weighing 2800 grs.

Case n°3

Mrs LCJ, 33, medical assistant, cohabiting, came to the emergency department with acute pelvic pain associated with metrorrhagia at 5 years of age. Her history includes: 5 pregnancies, 1 parity, 1 live child and 4 abortions, a chlamydia infection treated 2 years ago, 1 single partner. An unclear notion of amenorrhea

Examination on arrival revealed stable hemodynamic vitals and a cry from the umbilicus. Speculum revealed a purplish cervix and minimal metrorrhagia with blackish blood from the endocervix. BhCG returned 35320mUI/ml and haemoglobin 10.6g/dl. Endovaginal ultrasound revealed an intrauterine gestational sac containing a well-rounded vesicle containing an embryo with clearly visible cardiac activity estimated at 5sa and 3d. The uterus contained several intra-mural myomas. Exploration of the adnexa reveals a poorly visualized heterogeneous image of the left lateral uterus, suggestive of a hematosalpinx and a moderately abundant peritoneal effusion (Cf. Image 3).

The patient underwent laparoscopy, during which a ruptured left isthmic ectopic pregnancy was confirmed. She underwent total left salpingectomy.

The patient underwent tocolysis after laparoscopic surgery, and an ultrasound scan to check embryonic vitality at D2 post-op was normal.

Histological study confirmed tubal EP. GIU was carried to term, giving birth to a male child by the natural route at 37SA weighing 2900grs.

Case n°4

Mrs. CKM, 35 years old, military, cohabiting, came to the emergency room with abdominopelvic pain of progressive intensity, intermittent, diffuse, calmed by dorsal decubitus. This pain had been evolving for three days, and she stated that her menstrual period was late, which we put at 9 weeks and 6 days. Her antecedents include 3 gestations, 2 parities, 2 live children and 1 abortion. There is no known history of pelvic infection, nor of contraceptive use.

Examination revealed: stable hemodynamic constants, clinical anemia syndrome, abdominopelvic guarding and signs of peritoneal irritation. On speculum examination, the cervix was purplish and the vaginal walls were healthy.

Endovaginal ultrasonography revealed an evolutive intrauterine pregnancy of 9SA and 3 days. Exploration of the adnexa revealed a heterogeneous right latero-uterine image associated with an effusion occupying the douglas.

The diagnosis of heterotopic pregnancy is made

(Cf image 4). Laboratory results: hemoglobin 7.8 g/dl, rhesus AB positive. The patient underwent laparotomy, during which a total right salpingectomy was performed for a ruptured right ampullary ectopic pregnancy. We aspirated 400cc of hemoperitoneum. Tocolysis was initiated after laparotomy, and the embryonic vitality ultrasound performed at D3 post-op was normal.

Histological study confirmed tubal EP. GIU was carried to term, giving birth to a male child, by Caesarean section following starter dystocia at 38SA, weighing 3200 grs.

Case n°5

Mrs N'NDV, 30 years old, engineer, living with her partner, came to the emergency department with abdominal and pelvic pain that had been present for 24 hours. She admitted that she was pregnant with a desired pregnancy, which we estimated at 12 weeks' gestation. Her history: she is Primigravida, had her 1er sexual intercourse at the age of 18, has multiple partners and a history of chlamydia infection treated as a couple. She had undergone laparoscopic cystectomy. The pain radiated to the lumbar fossa and was very intense and incapacitating.

Examination on admission revealed: stable hemodynamic constants, abdominopelvic guarding, clinical anemia syndrome, sign of peritoneal irritation, enlarged uterus. On ultrasonography, we observe: an intrauterine gestational sac containing a live fetus estimated at 12 SA; examination of the adnexa reveals a 63*65mm heterogeneous right adnexal mass in favour of a haematosalpinx; the douglas contains a small effusion (Cf. image5). Diagnosis of heterotopic pregnancy Biological examination revealed a hemoglobin level of 9.7 g/dl, with a positive rhesus A blood group.

A laparotomy was performed during which a total right salpingectomy was performed in the face of a ruptured right ampullary ectopic pregnancy. We aspirate 1200cc of hemoperitoneum.

Tocolysis was initiated after laparotomy, and the fetal vitality ultrasound performed at D2 post-op was normal. Histological study confirmed tubal EP. GIU was carried to term, giving birth to a female child by vaginal delivery at 38SA weighing 3100 grs.

Case n°6

Mrs KY, a 24-year-old student, came to the emergency department with pelvic pain that had been progressing for a week and minimal metrorrhagia over 9 SA. She is Primigravida and has no particular medical or surgical history. She took emergency contraception about 1 month ago. Examination revealed: hemodynamic vitals stable, abdomen tender to palpation, sign of peritoneal irritation.

Endo vaginal pelvic ultrasound revealed: a heterotopic pregnancy (an intrauterine gestational sac containing a live embryo measuring 22.3mm or 9sa is easily individualized, associated with a second extrauterine ovarian sac also containing a live embryo measuring 15.7mm or 8sa (Cf Image 6 A and B). The diagnosis of heterotopic pregnancy was made. On biology: hemoglobin 9.6g/dl, rhesus o positive blood group. A laparotomy was performed. It revealed an adherent pelvis, 400cc of hemoperitoneum, a uterus enlarged to the size of an orange, and a ruptured right ampullary extrauterine pregnancy. We performed a total right salpingectomy. Tocolysis was initiated after laparotomy. Ultrasound examination of the embryonic vitality of the UGI on postoperative day 3 was normal.

Histological study confirmed tubal EP. The GIU was carried to term, giving birth to an F-sex child by caesarean section (severe pre-eclampsia complicated by growth retardation) at 37SA weighing 2017 grs.



Image 1 : A : GIU B : GEU

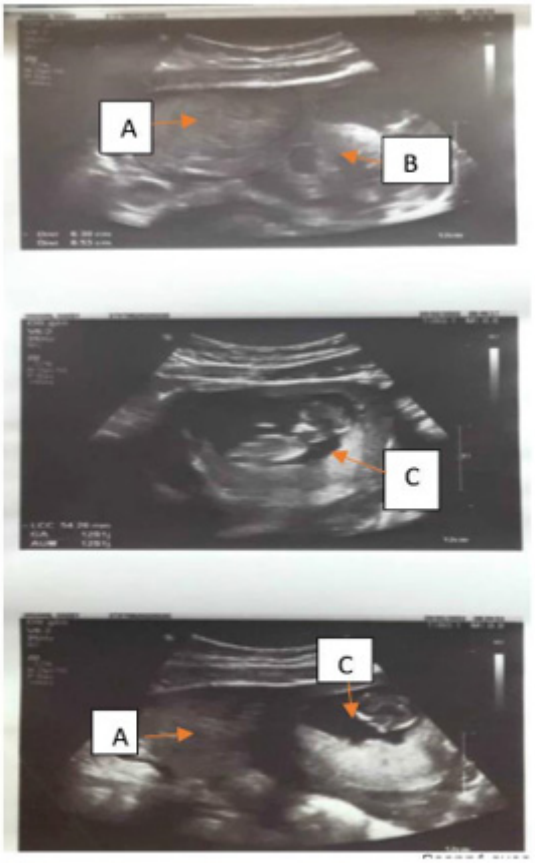


Image 5 : A : hématosalpinx, B : GEU, C : GIU

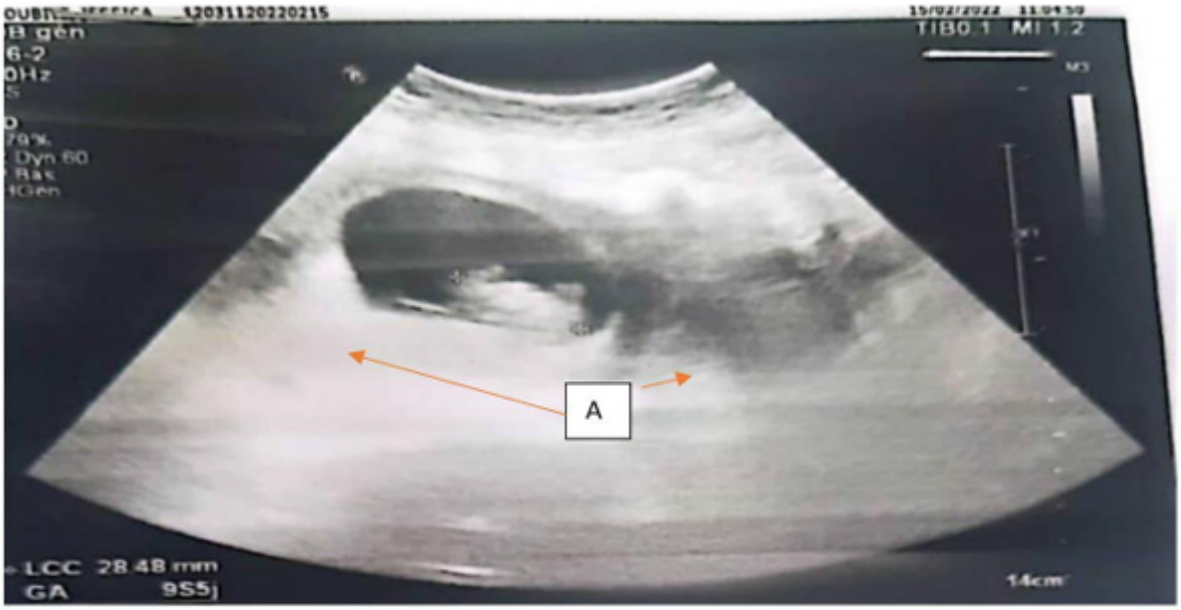
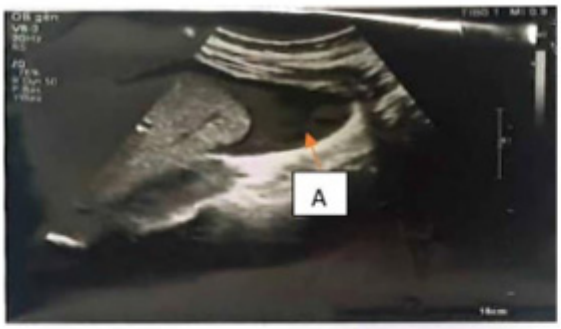
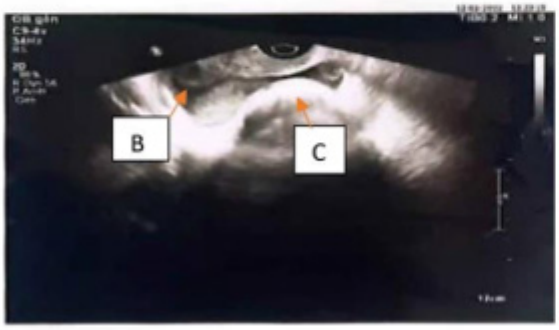


Image: 4: A=hémopéritoine





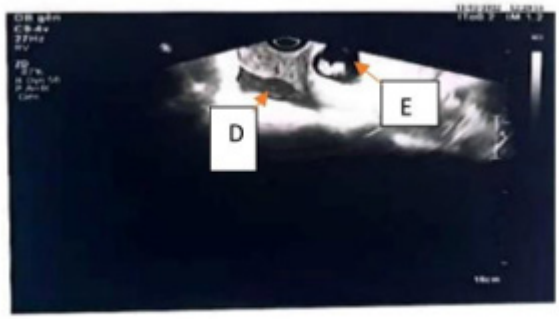


Image 2 : A=hémopéritoine loge hépatique. B= hémopéritoine loge vésico-utérine C= utérus. D= hémopéritoine dans douglas. E=GIU

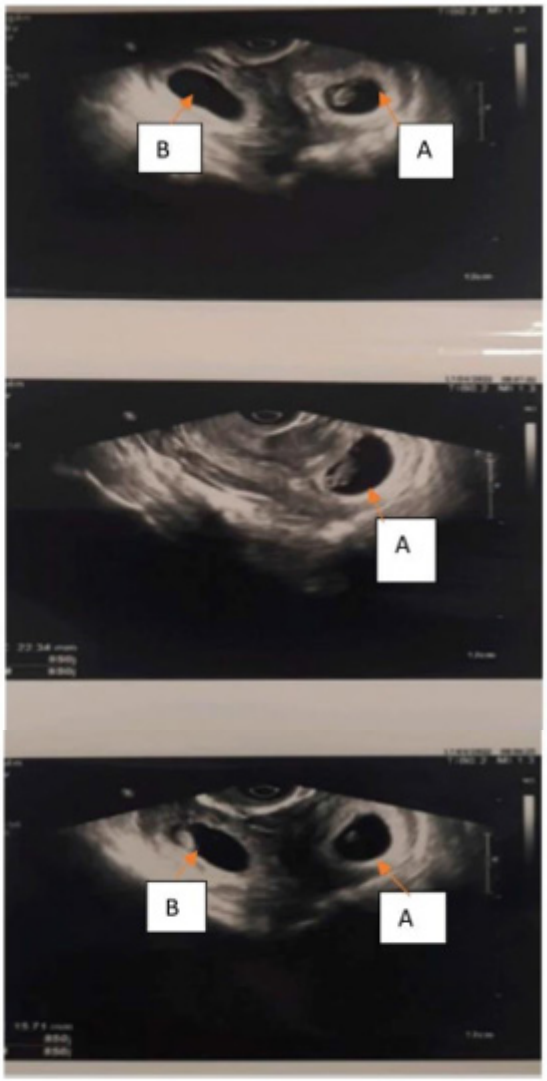


Image 6: A= GIU B= GEU

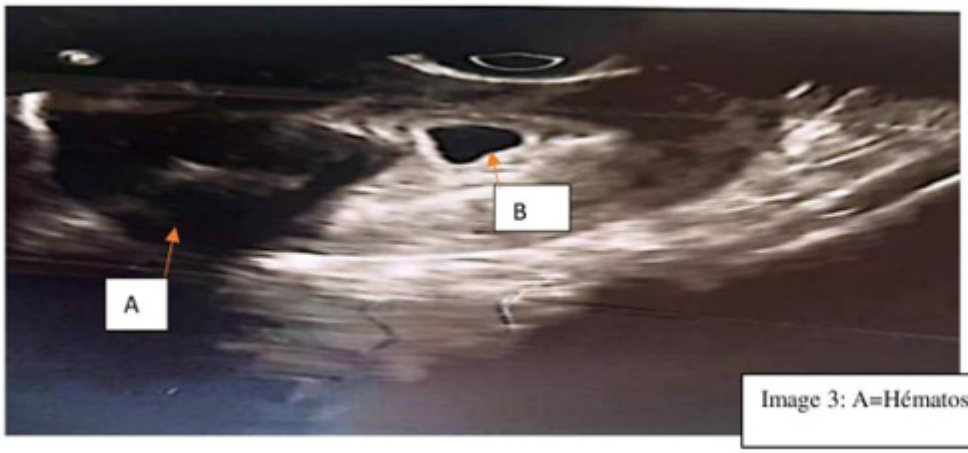


Image 3: A=Hématosalpinx B =GIU

Discussion

Heterotopic pregnancy is the concomitant presence of a UGI and an EP in a patient. Epidemiologically, the frequency of heterotopic pregnancies varies according to series [1,2]. From July 1er 2021 to April 30 2022, i.e. 10 months, we received 6 patients with heterotopic pregnancies out of a total of 3380 women who gave birth in the department, i.e. a rate of around 2/1000. Although this frequency tends to increase with the development of assisted reproduction techniques [3]. None of our patients benefited from this technique. All were spontaneous pregnancies. The average age of our patients was 29, with extremes of 24 and 35, and they were young women with an active sex life. Some patients also had infectious risk factors, such as PID, multiple partners, abortions and Chlamydia trachomatis infection. Chlamydia trachomatis infection evolves silently, but can lead to tubal sequelae [4] 3/6 cases. Genital infection is the main risk factor, as are all situations that alter the structure and function of the fallopian tubes, such as repeated use of emergency oral contraceptives and adhesion-promoting pelvic surgery.

Clinically, the circumstances in which heterotopic pregnancy was discovered varied from patient to patient. In our series, patients were seen from two hours to seven days after the onset of symptoms. The diagnosis was made during the first trimester of pregnancy [5] The age at diagnosis ranged from 5sa to 12 sa. Four patients were hemodynamically stable. Diagnosis is easy when the signs of EP take precedence [5], i.e. the classic triad of: secondary amenorrhea in 6/6 cases of our patients, metrorrhagia in 4/6 cases, pelvic pain in 5/6 cases. However, two patients presented with hemorrhagic shock. The patients knew they were pregnant and associated their symptoms with the onset of pregnancy, a threatened abortion or an abortion in progress, which delayed diagnosis and put their lives at risk. The diagnosis of heterotopic pregnancy is not made until signs of hemoperitoneum secondary to rupture of the EP [1] appear, whether or not associated with maternal shock [6], which is often fatal.

All patients underwent an ultrasound scan on admission. The diagnosis was made in all patients. Ultrasound specified the age of the pregnancy, the quality of the GIU and the site of the EP. All GIUs were progressive, but the extra-uterine signs varied from one patient to another. They ranged from the existence of an adnexal mass very close to the ovary, taking on the appearance of a gestational sac with an echogenic crown, or a heterogeneous echogenic mass corresponding to a Haematosalpinx. A hemoperitoneum. Ultrasound findings that confirm a heterotopic pregnancy are the presence of an intrauterine gestational sac containing an embryo, associated with an echogenic heterogeneous or completely anechogenic latero-uterine mass surrounded by an echogenic trophoblastic halo, sometimes containing an embryo, associated or not with an effusion in the cul de sac of Douglas [7].

In our series, serum beta HCG assay is not necessary, as the diagnosis is almost always obvious on ultrasound. In terms of management, the principle has been to intervene in the EP while trying to preserve the UGI. Exploratory laparoscopy should be performed as a first-line procedure to preserve the prognosis of the GIU as far as possible [8]. Treatment should be conservative whenever possible. In the event of intra- abdominal haemorrhage or shock, laparotomy is preferable [8]. However, in our series, surgery was performed as an emergency in 5/6 cases, which meant that most of these patients had to undergo radical treatment. Total salpingectomy was performed in 6/6 cases. Laparotomy was predominant in our series (5/6 cases), as patients arrived with a ruptured EP, and during on-call hours, medical staff capable of performing laparoscopy were often unavailable, and resuscitators were reluctant to administer CO2 to a patient in poor hemodynamic condition.

Management of the intrauterine pregnancy was straightforward, and antispasmodic tocolysis and progesterone supplementation, combined with rest during hospitalization, were essential. The prognosis

of GIU depends above all on how early the diagnosis is made [9]. Seventy-five percent of UGI cases progress to term after treatment [10]. Whatever the surgical approach, it does not seem to interfere with the development of GIU, provided that manipulation of the uterus is minimal and anesthesia of short duration.

No particularities were noted during the course of these pregnancies, and 4 patients delivered at term by vaginal delivery. The other two patients underwent Caesarean section for cervical dystocia in one case and preeclampsia in the other.

Conclusion

Heterotopic pregnancy is an increasingly frequent occurrence in our clinic. Related to the persistence of risk factors for ectopic pregnancy, it may also be favored by ovulation induction treatments. erDiagnosis is made in the 1st trimester of pregnancy, based on clinical findings and pelvic ultrasound. Treatment is still radical surgery by laparotomy, as endoscopy is not yet widely available in our circles.

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References

[1] Guennoun, Ahmed; Mamouni, Nisrine; Errarhay, Sanaa; Bouchikhi, Chahrazad; Banani, Abdelaziz. La grossesse hétérotopique spontanée : à propos de deux cas. Pan African Medical Journal. 2017 ; 28(306) :1-7 doi:10.11604/pamj.2017.28.306.13696

[2] Montilla F, Amar P, Boyer S, Karoubi R, Diquelou JY. Grossesse hétérotopique à propos d'un cas avec un tableau clinique rare. J Gynecol Obstet Biol Reprod 2007 ;36 :302—5.

[3] Yassine Smiti, Anass El Bouti, Khaoula Sibbou et al. Diagnostic et prise en charge d'une grossesse hétérotopique spontanée : cas clinique et revue de la littérature, Imagerie de la Femme. 2021 ; 31(1) : 57-60

[4] Ibodu OA, Darne FJ. Spontaneous heterotopic pregnancy presenting with tubal rupture. Hum Reprod. 1997 ; 12 : 1098-9

[5] Laghzaoui Boukaïdi M, Bouhya S, Sefrioui O, Bennani O, Hermas S, Aderdour M. Grossesseshétérotopiques : à propos de huit cas. Gynecol Obstet Fertil 2002 ;30:218—23.

[6] Simsek T, Dogan A, Simsek M, Pestereli E. Heterotopic tripletpregnancy (twin tubal) in a natural cycle with tubal rupture: a case report and review of the literature. J Obstet Gynaecol Res. 2008

[7] Camara Issa. Aspect échographique de la GEU à propos de 14 cas au CHU du point G. [mémoire DU en échographie Générale]. Bamako : Université des sciences, des Techniques et des Technologies de Bamako ; 2023.11

[8] Ben Temime, Riadh; Mathlouthi, Nabil; Makhlouf, Tahar; Attia, Leila; Chachia, Abdellatif (2012). La grossesse hétérotopique : à propos de sept cas et revue de la littérature. Imagerie de la femme 2012 ; 22(2), 110–116.

[9] Habana A, Dokras A, Giraldo J, Jones EE. Cornual heterotopic pregnancy: contemporary management options. Am J Obstet Gynecol 2000 ;182 :1264—70

[10] Bornstein E, Berg R, Santos R, Monteagudo A, Timor-Tritsch IE. Term singleton pregnancy after conservative management of a complicated triplet gestation including a heterotopic cornual monochorionic twin pair. J Ultrasound Med 2011 ;30(6) :865—7. .

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