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Management of a Heterotopic Pregnancy at the University Clinics of Kinshasa: A Case of a Triple Pregnancy; Removal of the Ectopic Pregnancy and Progression of the Intrauterine Twin Pregnancy

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Abstract

Heterotopic pregnancy is the coexistence of an intrauterine pregnancy and an extrauterine pregnancy, regardless of its location. It is an extremely rare condition, with an estimated prevalence of between 1 in 10,000 and 1 in 30,000 worldwide. Literature data show an increasing frequency of heterotopic pregnancies, becoming more common with the rise in medically assisted reproduction. According to U.S. data from ART (Assisted Reproduction Techniques), there were 485 heterotopic pregnancies out of 553,000 pregnancies conceived between 2001 and 2011, with the risk estimated at 1 in 1100 pregnancies, compared to 1 in 30,000 pregnancies for a spontaneous pregnancy. Its incidence is significant at an advanced age due to the higher likelihood of past gynecological infections and the rise in assisted reproductive technology (ART). The diagnosis remains difficult due to its confusing symptomatology. Diagnosis is often made with pelvic ultrasound, usually in the first trimester of pregnancy. Laparoscopy not only confirms the diagnosis but also allows for appropriate management today. The management of heterotopic pregnancies aims to remove the extrauterine pregnancy while preserving the intrauterine pregnancy as much as possible and limiting the risk of recurrence. Heterotopic pregnancy has implications for the maternal and fetal prognosis.

Keywords

Triple Heterotopic Pregnancy, Ruptured Ectopic Pregnancy

1. Introduction

Heterotopic pregnancy, also known as combined pregnancy, is the coexistence of a twin pregnancy: one intrauterine (IUP) and one extrauterine (EUP), regardless of its location. It is an extremely rare type of pregnancy, but its frequency is increasing with advances in reproductive medicine and assisted reproductive technology, as well as a rise in factors favoring EUP. Its occurrence on a pathophysiological level often results from simultaneous fertilization (different rates of migration of two fertilized eggs) or delayed fertilization (fertilization of two eggs produced within a short interval during the same cycle by two sperm cells from two successive coitus) [1]-[3]. The circumstances of discovering a heterotopic pregnancy vary. The diagnosis is straightforward when the signs of EUP are prominent, with the clinical symptoms mainly dominated by the classical triad of EUP: amenorrhea, metrorrhagia in 50% of cases, and pelvic pain in 82.7% to 90% of cases [4] [5]. These symptoms are often related to a threatened or ongoing miscarriage. Collapse can also be seen in 13% to 45% of patients. The presence of this triad along with an increase in uterine volume strongly suggests a heterotopic pregnancy. The diagnosis becomes more challenging if the clinical presentation makes the heterotopic pregnancy evident only upon the appearance of signs of hemoperitoneum secondary to a ruptured EUP [3]-[6], with or without associated maternal shock, which is often fatal [6]-[10]. Lastly, a heterotopic pregnancy can be completely asymptomatic and discovered incidentally during an ultrasound examination [7].

Pelvic ultrasound is the primary para-clinical examination that allows the diagnosis of a heterotopic pregnancy, determining the age of the pregnancy, the location of the EUP, the viability of the IUP, and checking for possible complications [7] [8]. Exploratory laparoscopy confirms the diagnosis. The management principle of heterotopic pregnancy involves treating the EUP while trying to preserve the IUP. Exploratory laparoscopy is preferred initially in cases of diagnostic uncertainty to confirm the diagnosis and to preserve the prognosis of the IUP as much as possible [8] [9] [11] [12]. Treatment should be conservative wherever possible. In cases of intra-abdominal hemorrhage or shock, a laparotomy is preferable [6] [13] [14].

Ectopic pregnancy not only presents a diagnostic challenge but also threatens the maternal-fetal prognosis.

The article presents a case study of a spontaneous triple heterotopic pregnancy in a 38-year-old woman. The pregnancy involved two intrauterine fetuses and one ectopic pregnancy. The ectopic pregnancy was managed via laparotomy and salpingectomy. One of the intrauterine twins was miscarried, while the other progressed to term and was delivered via cesarean section at 38 weeks and 5 days due to reduced fetal movements and polyhydramnios. The newborn experienced respiratory distress and neonatal infection but ultimately recovered after a long stay in neonatology. This emphasizes the rarity of spontaneous heterotopic pregnancy and the challenges in its diagnosis and management: ultrasound data, and thera-

peutic management. There was no treatment for stimulation (no assisted reproductive technology involved), and no history of genital infections or contraception. The main reason for consultation was metrorrhagia. The ectopic pregnancy was managed via laparotomy.

2. Observation

This is a 38-year-old woman, gravida 3 para 2 abortus 1, with a family history of twins on her mother's side, father's side, and husband's side. She is in a polygamous marriage, and her husband has eight children. She delivered vaginally 16 years ago before her marriage and has had two pregnancies with her current partner (aged 57), the first of which resulted in a spontaneous miscarriage at eight weeks of amenorrhea, managed medically. There is no history of ovarian stimulation, genital infections, or contraception. She consulted a local center, which is usual for her, due to metrorrhagia with a history of two months of amenorrhea.

Last Menstrual Period (LMP): 16/06/2023

Ultrasound performed during her visit reveals:

A progressive left adnexal ectopic pregnancy of 7 weeks + 2 days with moderate hemoperitoneum, two gestational sacs each containing an embryo with present cardiac activity, the trophoblast with a 15 × 4 mm detachment, consistent with a heterotopic pregnancy with a progressive and ruptured extrauterine component, and a 7 weeks + 2 days intrauterine bi-chorionic bi-amniotic twin pregnancy with a 15 × 4 mm decidual hematoma, (**Figure 1**) An evolving left adnexal ectopic pregnancy at 7 weeks and 2 days (**Figure 2**) with moderate hemoperitoneum, (**Figure 3**) and two gestational sacs each containing an embryo with cardiac activity present, with a trophoblast detachment measuring 15 × 4. It was concluded to be a heterotopic pregnancy with an evolving and ruptured extrauterine component and a bichorionic biamniotic intrauterine twin pregnancy at 7 weeks and 2 days with a decidual hematoma of 15 × 4 mm.

Management included a left salpingectomy via laparotomy, alongside medical management with progesterone and Proluton Depot until 28 weeks of gestation.

The postoperative ultrasound check-up, performed 7 days later, concluded that there was a twin pregnancy with one embryo evolving at 8 weeks and 1 day and the other stopped at 7weeks and 6 days, alongside a large decidual hematoma.

Two weeks later, a follow-up ultrasound showed the presence of two gestational sacs, one measuring 64 and the other 45. The first contained an embryo with cardiac activity, while the second contained no embryo and had a decidual hematoma—resulting in a monoembryonic evolving pregnancy at 11 weeks and 1 day, with a miscarriage of the second twin.

The patient continued monthly prenatal consultations until 18 weeks.

With some doubts in mind, the couple decided to continue their follow-ups at the University Clinics of Kinshasa, where an ultrasound at the imaging service concluded an intrauterine singleton pregnancy at 31 weeks and 4 days without any particular issues, in cephalic presentation, estimated fetal weight (EFW) of

1605 ± 248 g, normal morphology, and female gender. They were then directed to the obstetrics and gynecology service at the University Clinics of Kinshasa where the monthly prenatal visits continued without incident.

The progression was marked by the appearance of edema in the lower limbs, a fetus in breech presentation, and the presence of 1 + protein on the urine dipstick. Blood pressure values were within normal ranges, with the remainder of the evaluation concluding a urinary tract infection at 36 weeks and 6 days. Prenatal consultations were correctly followed, and all prenatal assessments were completed, indicating a good progression. At 38 weeks, the pregnant woman consulted for lower back and pelvic pain and weak uterine contractions. Monitoring showed the presence of decelerations with no cervical changes. Ultrasound revealed reduced fetal movements, polyhydramnios, and a fetus in breech presentation. An emergency cesarean section was performed, leading to the delivery of a live female newborn with APGAR scores of 6/8/9, who was resuscitated and kept in neonatology for respiratory distress.

The newborn weighed 2500 grams, and the placenta, which appeared macroscopically normal, was sent for pathological examination. In terms of evolution, the mother had no complications, and her discharge from the maternity ward was authorized on the fifth day post-cesarean section; the newborn stayed in neonatology for a month due to a condition of neonatal infection and anemia complicated by respiratory distress.

Unfortunately, we did not obtain the results of the pathological examination of the placenta.

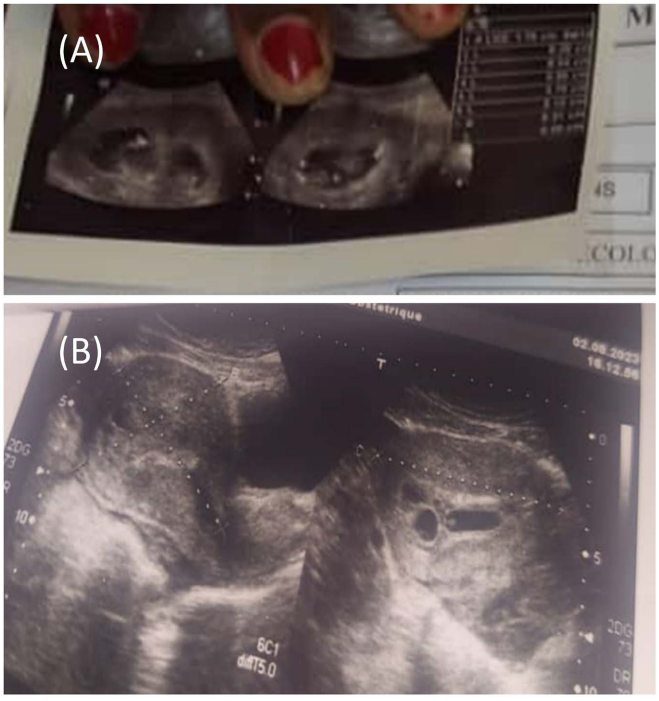

Figure 1. 7 weeks 2 days intra-uterine pregnant bichorial biamniotic (A). With a big decidual hematoma (B).

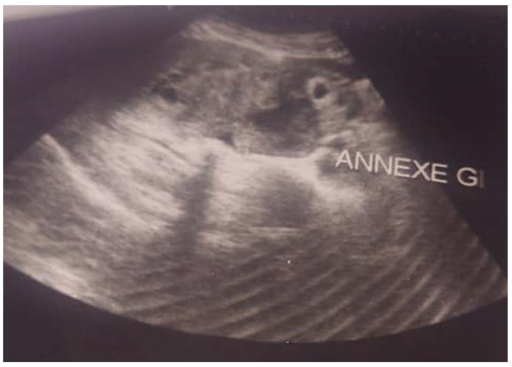

Figure 2. Left ectopic pregnancy.

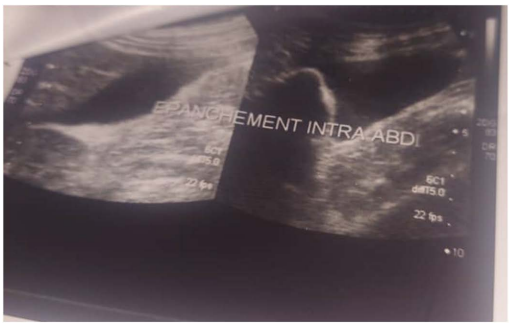

Figure 3. Intraperitoneal blood effusion after ruptured large ectopic pregnancy.

3. Discussion

According to the literature review, the first case of heterotopic pregnancy was discovered in 1708 during the autopsy of a woman in her third month of pregnancy, and the second case was identified a century later [1] [2]. Although rare historically, its frequency is increasing with the rise of assisted reproductive technology and the aggravation of upper genital infections and tubal surgeries. [1] [2] [15]-[17].

The literature review covers very few cases of heterotopic pregnancy progressing beyond seven weeks of gestation. In 2023, a case involving a heterotopic pregnancy with a three-week disparity (context of superfetation) was reported in Clermont-Ferrand. The first embryo, located in the pouch of Douglas at 5 weeks and 5 days, was removed via laparoscopy, while the intrauterine pregnancy at 8 weeks of gestation progressed to term, resulting in the birth of a healthy female newborn [1] [2] [6].

Aguemon T *et al.* in Benin in 2015 reported a quadruple heterotopic pregnancy, with the first twin being a polymalformed live birth with abdominal development, discovered during a cesarean section at 34 weeks of gestation. The three intrauterine twins were alive, with two passing away postpartum and one surviving [8].

At Charles-Nicolle University Hospital in Tunisia in 2012, seven cases of heterotopic pregnancies were managed, with a history of appendicular peritonitis reported in two cases. One pregnancy was achieved through IVF-ICSI, and four through ovulation induction with clomiphene citrate. The diagnosis was sus-

pected via ultrasound in four cases. Treatment included a salpingectomy by laparoscopy in three cases and by laparotomy in one case. Conservative treatment was performed in two cases, once by laparoscopy and once by laparotomy. One patient received a potassium chloride injection during the ectopic pregnancy under ultrasound guidance [9] [10].

In 2021, Yassine S. *et al.* in Morocco reported the case of a 35-year-old woman with no history of medically assisted reproduction, admitted for isolated pelvic pain. The diagnosis of heterotopic pregnancy was confirmed by early ultrasound. A diagnostic laparoscopy was performed, and a cesarean section at 37 weeks and a healthy baby was delivered [11]-[13].

Ahmes G *et al.* in 201 at CHU Hassan II in Fez reported a case of a 21-year-old woman, with a history of treated and declared cured pulmonary tuberculosis. She consulted for acute pelvic pain associated with metrorrhagia and two months of amenorrhea. Pelvic ultrasound showed an ampullary ectopic pregnancy, which was treated with salpingotomy via laparoscopy. The pregnancy progressed normally, and at 36 weeks, labor was induced due to oligohydramnios, resulting in a vaginal delivery without complications [14] [18].

Management via laparoscopy allows for the removal of the ectopic pregnancy while allowing the intrauterine pregnancy to proceed [3]-[6]. However, the occurrence of a spontaneous heterotopic pregnancy remains rare, with the risk factors for spontaneous heterotopic pregnancy being the same as those for ectopic pregnancy (EUP).

In our clinical case, the heterotopic pregnancy was spontaneous, and aside from age, we did not have other risk factors. The diagnosis of heterotopic pregnancy was discovered via ultrasound, with the loss of the second twin occurring post-laparotomy for the left ectopic pregnancy. It is important not to overlook the existing detachment before the surgical intervention, which makes it difficult for us to determine if the first twin's miscarriage was due to the surgical technique or the trophoblastic detachment. The remaining twin's progress and follow-up were good; the patient was delivered by cesarean section at 38 weeks of gestation, and the newborn stayed in neonatology, leaving in good condition after one month.

4. Conclusion

Heterotopic pregnancy is rare, exceptional, and remains a high-risk pregnancy. Its diagnosis and management are challenging, and by nature, it poses a threat to the maternal-fetal prognosis. Early emergency management by laparoscopy is somewhat reassuring for the favorable development of the intrauterine twins, highlighting the necessity to improve technical capabilities in our settings. Between 30% and 75% of intrauterine pregnancies reach term following the treatment of ectopic pregnancies (EUP) [10] [11]. Regardless of the surgical approach, it does not seem to disturb the development of the intrauterine pregnancy, provided that uterine manipulation is minimal and anesthesia is of short duration, as was the case in our situation.

Author Contributions

All authors have read and approved the final version of the manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Julien, A., Gremeau, A.S., Campagne-Loiseau, S., *et al.* (2024) Case Report of an Exceptional Spontaneous Abdominal Heterotopic Pregnancy with Superfetation: Diagnosis and Treatment: Heterotopic Pregnancy with Superfetation (8 + 1 WG & 5 + 4 WG). *Journal of Gynecology Obstetrics and Human Reproduction*, **53**, Article 102701. https://doi.org/10.1016/j.jogoh.2023.102701

[2] Channiss, L., Tahle, T., Sabouni, R. and Jamalih, M. (2023) Heterotopic Pregnancy with Superfetation Following Ovarian Stimulation: A Case Report. *Case Reports in Women's Health*, **40**, e00562. https://doi.org/10.1016/j.crwh.2023.e00562

[3] Moore, J.W. and Sale, E.P. (1870) Cases of Extra and Intra Uterine Foetation Occurring Conjointly: With Operation Therefor, Resulting in the Death of the Mother and the Saving of Two Living Children. *New Orleans Journal*, **23**, Article 727. https://archive.org/details/paper-doi-10_1097_00000441-187101000-00131

[4] Diallo, D., Aubard, Y., Piver, P. and Baudet, J.H. (2000) Grossesse hétérotopique: A propos de 5 cas et revue de la littérature. *Journal de gynécologie, obstétrique et biologie de la reproduction*, **29**, 131-141.

[5] Bambara, M., Dao, B., Toure, B., Ouedraogo, B., *et al.* (2002) Grossesses hétérotopiques: À propos de trois cas. *Louvain Medical*, **121**, 383-387.

[6] Sherer, D.M., Scibetta, J.J. and Sanko, S.R. (1995) Heterotopic Quadruplet Gestation with Laparoscopic Resection of Ruptured Interstitial Pregnancy and Subsequent Successful Outcome of Triplets. *American Journal of Obstetrics and Gynecology*, **172**, 216-217. https://doi.org/10.1016/0002-9378(95)90119-1

[7] Su, W.H., Wang, P.H. and Chang, S.H. (1998) Unusual Presentation of Heterotopic Pregnancy: A Case Report. *Chinese Medical Journal*, **61**, 608-612.

[8] Christiane, T., Justin, D., Benjamin, H., *et al.* (2015) Heterotopic Pregnancy in the University Clinic of Gynecology and Obstetrics of the National Hospital and University of Benin Hubert Maga Koutoukou: Report of a Case of Quadruple Pregnancy. *Pan African Medical Journal*, **20**, Article 394.

[9] Dimitry, E.S., Subak-Sharpe, R., Mills, M., Margara, R. and Winston, R. (1990) Nine Cases of Heterotopic Pregnancies in 4 Years of *in Vitro* Fertilization. *Fertility and Sterility*, **53**, 107-110. https://doi.org/10.1016/s0015-0282(16)53225-7

[10] Ousehal, A., Mamouchi, H., Ghazli, M. and Kadiri, R. (2001) Grossesse hétérotopique: Intérêt de l'échographie sus pubienne (à propos d'un cas). *Journal of Radiology*, **82**, 851-853.

[11] Wallach, E.E., Tal, J., Haddad, S., Gordon, N. and Timor-Tritsch, I. (1996) Heterotopic Pregnancy after Ovulation Induction and Assisted Reproductive Technologies: A Literature Review from 1971 to 1993. *Fertility and Sterility*, **66**, 1-12. https://doi.org/10.1016/s0015-0282(16)58378-2

[12] Jibodu, O.A. and Darne, F.J. (1997) Spontaneous Heterotopic Pregnancy Presenting with Tubal Rupture. *Human Reproduction*, **12**, 1098-1099. https://doi.org/10.1093/humrep/12.5.1098

[13] Laghzaoui Boukaïdi, M., Bouhya, S., Sefrioui, O., Bennani, O., Hermas, S. and Aderdour, M. (2002) Grossesses hétérotopiques: À propos de huit cas. *Gynécologie Obstétrique & Fertilité*, **30**, 218-223. https://doi.org/10.1016/s1297-9589(02)00298-9

[14] Simsek, T., Dogan, A., Simsek, M. and Pestereli, E. (2008) Heterotopic Triplet Pregnancy (Twin Tubal) in a Natural Cycle with Tubal Rupture: Case Report and Review of the Literature. *Journal of Obstetrics and Gynaecology Research*, **34**, 759-762. https://doi.org/10.1111/j.1447-0756.2008.00921.x

[15] De Francesh, F., Dileo, L. and Martinez, J. (1999) Heteotopic Pregnancy: Discovery of Ectopic Pregnancy after Elective Abortion. *Southern Medical Journal*, **92**, 330-332. https://doi.org/10.1097/00007611-199903000-00016

[16] Sefroui, O., Azyer, M., Babahabib, A., Kaanane, F. and Matar, N. (2004) Pregnancy in Rudimentary Uterine Horn: Diagnosis and Therapeutic Difficulties. *Gynécologie Obstétrique & Fertilité*, **32**, 308-310. https://doi.org/10.1016/j.gyobfe.2004.01.015

[17] Habana, A., Dokras, A., Giraldo, J.L. and Jones, E.E. (2000) Cornual Heterotopic Pregnancy: Contemporary Management Options. *American Journal of Obstetrics and Gynecology*, **182**, 1264-1270. https://doi.org/10.1067/mob.2000.103620

[18] Bornstein, E., Berg, R., Santos, R., Monteagudo, A. and Timor-Tritsch, I.E. (2011) Term Singleton Pregnancy after Conservative Management of a Complicated Triplet Gestation Including a Heterotopic Cornual Monochorionic Twin Pair. *Journal of Ultrasound in Medicine*, **30**, 865-867. https://doi.org/10.7863/jum.2011.30.6.865