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Successful Outcome of a Heterotopic Pregnancy: A Case Report

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Abstract:

Heterotopic pregnancy refers to the presence of simultaneous pregnancies at two different implantation sites. We present an unusual case of term heterotopic pregnancy, the ectopic pregnancy being abdominal implantation. The co-existence of spontaneous full term intra-uterine with advanced abdominal ectopic pregnancy and both viable babies without any residual effect or congenital anomalies is one of the rarest forms of heterotopic pregnancy. Other than Ultrasound, increased HCG, or alpha feto protein, sophisticated modern technology like MRI or CT's Scan absolutely needed for proper diagnosis, placental localization and vascularization to prevent intra-operative catastrophies.

Key Words: Heterotopic Pregnancy, Assisted Reproductive Technique

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Introduction:

Heterotopic pregnancy refers to the presence of simultaneous pregnancies at two different implantation sites. Most often these sites are a combination of one intrauterine and the 2nd one ectopic pregnancies, rather than two ectopic pregnancies[1,2]. The estimated incidence of heterotopic pregnancy depends upon the rates of ectopic pregnancy and dizygotic twinning. Heterotopic pregnancy used to be rare, estimated to occur in 1 in 30,000 pregnancies[2,3]. With the advent of assisted reproduction techniques (ART), including super-ovulation, intrauterine insemination, and in vitro fertilization, the overall incidence of heterotopic pregnancy has risen to approximately 1 in 3900 pregnancies[3].

In general population the major risk factors for heterotopic pregnancy are the same as those for ectopic pregnancy. For women in an ART, there are other additional factors – a higher incidence of multiple ovulations, a higher incidence of tubal malformation, tubal damage and technical factors in embryo transfer which may increase the risk for ectopic and heterotopic pregnancy (3-5%)[4]. We are presenting a term pregnancy with heterotopic pregnancy in which the ectopic pregnancy was an alive abdominal pregnancy – this is rare and unusual, potentially dangerous life-threatening pregnancy found in a tertiary hospital in South Africa. As to our knowledge and search result no alive case has been reported with comparable gestation and ectopic pregnancy location.

Case report:

A 30-year-old gravida 3 para 2 mother, referred from the district hospital with the diagnosis of established labour in twin pregnancy. Ultrasound done twice at 20 & at 37 weeks – both revealed twin pregnancy but never was mentioned about heterotopic pregnancy. Her last menstruation was on November 06, 2020 making the gestational date at presentation 37 weeks. Her previous obstetric experience was uneventful with two vaginal deliveries in 2014 and 2017, both live born term pregnancy. She was sero-negative for human immunodeficiency virus (HIV) and treated for vaginal discharges on several occasions prior to this current pregnancy. The pertinent physical examination findings at admission are: twin A cephalic presentation with fetal heart beat (FHB) =140/minute, twin B transverse lie with FHB=132/minute, cervical dilatation 4 cm and fully effaced.

In four hours after admission, she gave birth a 2.58 kg alive male baby with APGAR score 10 and 10 in the first and fifth minutes. The placenta expelled spontaneously five minutes after the delivery. The obstetric sonography visualized well contracted empty uterus, second twin

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floating in the abdominal cavity (figure 3). The placenta was attached outside at the fundus of the uterus. Laparotomy was done to deliver an alive female baby with the weight of 1.58 kg, APGAR score of 10 and 10 in first and fifth minutes. The placenta was found located outside uterus partly on fundus of uterus and partially on the intestinal mesentery, it was highly vascularised, supplied from the right ovarian and mesenteric vessels. We did not try to remove placenta at all but left in-situ with little intraoperative bleeding. The patient's post-operative course was uneventful and she was discharged on 5th post-operative day with advice for follow up with B hCG and 6th week ultrasound, which showed B hCG negative and residual avascular placenta measuring 2.2 times 1.6 cm uterus respectively (placenta was left in situ).

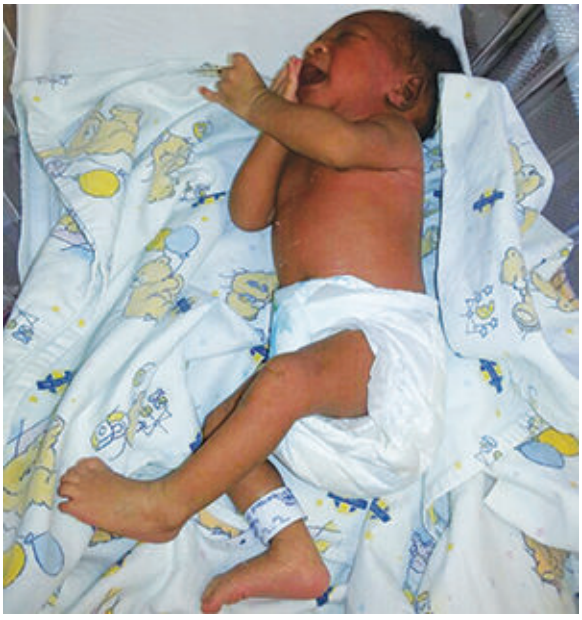

Fig.-1: *First twin after normal vaginal birth,2.58 Kg birth wt*

Fig.-2: *After laparotomy, 2nd twin, abdominal pregnancy, 1.58 kg birth wt*

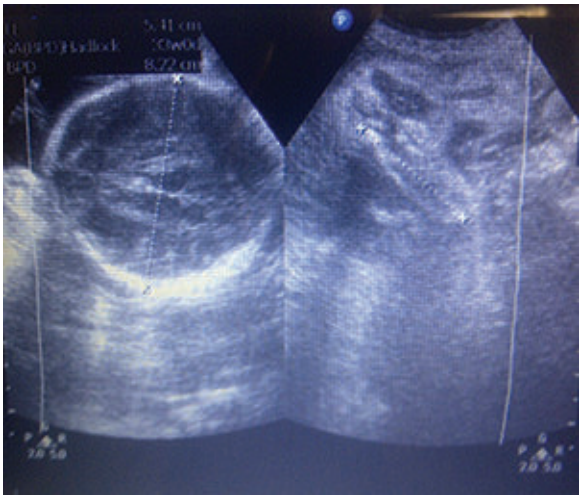

Fig.-3: *Ultrasonography showed intra-abdominal pregnancy after delivery of 1st baby*

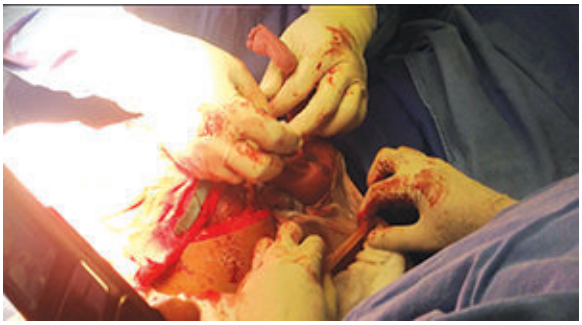

Fig.-4: *Laparotomy for delivery of 2nd baby (abdominal pregnancy)*

Discussion

Spontaneous heterotopic pregnancy is a rare clinical and potentially dangerous condition in which intrauterine and extrauterine pregnancies occur at the same time. It can be a life-threatening condition and can

be easily missed, with the diagnosis being overlooked[1].

A high index of suspicion is needed in women with risk factors for an ectopic pregnancy. The risk factors associated with abdominal pregnancy is similar with other types of ectopic pregnancies. The case we presented had been treated for vaginal discharge at different times and she had previous successful normal vaginal births with no other particular symptoms and no significant past medical history[2,3]. The higher incidence of abdominal pregnancy most of the time related to, STI, HIV and associated pelvic inflammatory disease (PID) with suboptimal treatment[6].

In the last two years we had managed fifteen (15) cases of abdominal pregnancies in this tertiary Queen Mamohato Memorial Hospital (QMMH), Maseru, Lesotho, South Africa with the prevalence being 1 in 428 total deliveries and the ratio of abdominal pregnancy to total ectopic pregnancy is 1 in 6 (unpublished but internal audit). From the literature review the incidence of abdominal pregnancy is higher in this part of the continent with no clearer answers but the high rate of HIV and PID increases the occurrence[7,8].

The mortality rate of abdominal pregnancy higher depending on the gestational age and site of implantation of the placenta. Studies showed the rate of maternal mortality is highest (80-90%), largely due to haemorrhage because of separation of placenta from its vascular beds either omentum, intestine, large vessels, cul-de-sac, broad ligament, pelvic side walls, spleen or mesentery[9]. Maternal morbidities also increased due to severe anaemia, bowel obstruction, fistula, development of DIC[10,11]. In this particular case the placenta was left in-situ with little intraoperative and post-operative bleeding[12] and any other complications.

Perinatal mortality is in range of 40-95%, even if pregnancy proceeds to term, 20-40% foetuses have some malformations mostly because of associated oligohydramnios and compression by intra-abdominal organs and abdominal wall itself in absence of uterine wall[13]. Here in this case both intrauterine and extra-uterine babies were alive with no congenital malformations.

Thorough ANC and high index of suspicions has to be implemented to enhance the detection of heterotopic pregnancies. And thereby proper active management can be initiated to prevent subsequent maternal and perinatal morbidity and mortality. As the difficulty in diagnosis prior to surgery may mean that patient might require life-saving surgeries beyond the scope of pre-operative signed form. As most significant challenge is to control bleeding & decision of placenta removal followed by prompt delivery of fetus, so along with trained obstetrician the availability of expert personnel like anaesthetist, paediatrician, general surgeon and dedicated trained nursing staffs are absolutely necessary for a successful outcome like our patient, for both patient and neonatal survival [13].

Consent: Patient gave written informed consent to publish her case.

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