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Delivering a Live Fetus at 24th Week Gestational Week: A Case of Partial Hydatidiform Molar Pregnancy

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Abstract

The following case is about a woman who had a twin pregnancy with a partial mole and a coexisting live viable fetus, which is a rare occurrence. The partial mole was confirmed through ultrasound and monitoring her β-HCG levels during 20th week of her gestational period. The ultrasound scans did indicate a normal, viable fetus with no anomalies and a good heartbeat. A normal delivery took place during the 24th week of her gestational period, the fetus she gave birth to have abnormalities and died within 6 hours of birth. Her β-HCG levels were monitored even after the delivery and they returned to 0 after 8 weeks indicating no complications. Most commonly in a case of partial molar pregnancy spontaneous abortion is advised but if the case is diagnosed early complications can be avoided.

Keywords: Gestational Trophoblastic Disease (GTD); Hydatidiform molar pregnancy; Hydatidiform mole; Twins; Coexisting fetus; Partial mole; Complete mole; Human Chorionic Gonadotrophin (HCG); β-HCG; Ultrasound; Ultrasonography; Placenta; Per vaginum bleeding

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Introduction

A partial mole occurs when a normal egg is fertilized by one or two sperm which then reduplicates itself, resulting in a triploid or tetraploid karyotype in the fetus. Partial molar pregnancy is an irregular pregnancy in which the embryo either grows incompletely, or doesn't grow at all which mostly ends in a miscarriage. Inside the uterus multiple cysts grow which are known as hydatidiform mole. Hydatidiform Mole (HM) is the most frequent form of Gestational Trophoblastic Disease (GTD). Symptoms associated with partial molar pregnancy are frequent bleeding from the vagina in early pregnancy during the 1st trimester. Other symptoms may include severe vomiting and nausea, high blood pressure. Partial molar pregnancy is diagnosed by performing an ultrasound which reveals presence of cysts in the uterus especially placenta, low amniotic fluid and less developed fetus. A test is carried out that measures the levels of beta Human Chorionic Gonadotropin (HCG). β-HCG is a hormone that is released in women while they're pregnant. It appears in the blood or urine a week after the egg has been fertilized. In partial molar pregnancy the levels of β-HCG increase less rapidly than in a normal pregnancy. This case report is about a woman who was pregnant with a hydatidiform partial mole and a coexisting live fetus [1]. A twin pregnancy with one fetus and a coexistent mole, used to be an unusual occurrence but in recent times it is more frequent possibly due to the rise in ovulation induction. In every 22,000-1,00,000 pregnancies 1 case is of a pregnancy with hydatidiform mole[1], most pregnancies are complete hydatidiform moles (CHM) with a fetus. The told incidence for a partial mole with a coexisting fetus is 0.005%-0.01% of pregnancies [2].

Case Report

A woman of age 29-years arrived at the out-patient department of a secondary care hospital at the gestation of 9 weeks and 2 days for antenatal checkup. The pregnancy was a planned conception and was confirmed by an ultrasound during the 10th week of gestation. She experienced regular menstrual cycles and the last menstrual cycle period was 9 weeks and 2 days back. Previously she had 3 normal deliveries, last born was 5 years back and an 8-week abortion 5 months back. Abortion was not an induced

abortion, it was a missed abortion; the products were removed by surgically removed (Queretage) at a local hospital. She had a family history of hypertension (high blood pressure). On physical examination her weight was measured to be 64 Kilograms, her blood pressure was 100/70 mm Hg and a pulse of 82 beats/minute. She had an episode of spotting per vaginum (bleeding from vagina) 3 days prior to this checkup. The ultrasound showed a single gestational sac of 8 ± 1 week. She came back to the out-patient department for a routine visit after 20 days, gestation of 12 weeks and 3 days. She had complaints of lower abdominal pain and burning micturition (urination), she was prescribed Cranmax sachet and multi-vitamin tablets. An ultrasound showed a single alive fetus of 12 weeks. Her next visit was after a week (gestation of 13 weeks and 3 days) with complaints of lower abdominal pains, the height of fundus was just palpable and abdomen was soft and not tender. She was advised to have a urine detail report; the results came out as normal and no infection. Her next visit was after 2 weeks (gestation of 15 weeks and 3 days) for a normal checkup. She complained of epigastric pain for which she was advised Zantac of 150 mg (twice a day) and she was advised registration. She came to the Emergency Room of the same hospital after two days (15 weeks and 5 days) with complain of spotting per vaginum (but no burning micturition. She had a normal temperature, blood pressure of 120/80 mm Hg and pulse of 106 beats per minute.

On the abdominal examination uterus size was found to be 18 weeks, fetal parts were palpable and fetal heart sound was present. On per speculum examination os was found to be closed and blackish discharge present; patient was advised admission. She was admitted for observation and on the next day an ultrasound was performed which showed single alive intrauterine pregnancy corresponding to 17 weeks, fetal cardiac activity was seen, placenta was posterior not low-lying. A complex area was seen at the anterior wall of uterus measuring 10.5 cm × 3 cm, possibility of uterine hematoma and has multiple cystic spaces but when color Doppler was performed it did not show vascularity so the doctor concluded it could be partial mole or degenerative fibroid and counselling of patient was done accordingly and a next scan was advised to be done in a week. She advised tablet Iron ferrous Sulphate (Iron and calcium supplement), U-progest (Progesterone pessary advised) and advised anomaly scan after 2 weeks and discharged that day. Rescan was performed after 10 days and patient was examined, an echogenic mass was seen in the anterior uterine wall budging into amnion measuring 10.3 × 5.6 cm, multiple cystic areas were seen inside but no vascularity was seen. It was concluded that there was presence of a bi-lobed placenta with molar changes in anterior lobe. She was then registered as a regular patient for antenatal checkup in the hospital at 20 weeks gestation period. Her serum β-HCG level was found to be 279032.4 mIU/ml (expected HCG value for women of gestational age 13-27 weeks is between 6303 and 97171 mIU/ml). She came again after a few days with a complaint of bleeding per vaginum and she was advised to have an ultrasound for fetal well-being. The ultrasound was performed during the 21st week of gestation and the result showed single viable fetus of gestational age 21 ± 1 weeks, amniotic fluid was adequate, no congenital anomalies were found, no sign of abruptio placenta, and the placenta was bi-lobed with multiple cystic spaces in anterior lobe; diagnosis was made of partial mole. Then she was admitted on 23 weeks and 4 days of gestational period with complaints of pain. When she was examined she was found to be fully dilated, artificial rupture of membrane was done, blood stained liquor was drained in excess amount, and she delivered a female fetus spontaneously in 4 hours.

A large quantity of cystic grape skin like material was spontaneously expelled and after half an hour of delivery placenta was delivered complete with membrane, blood loss was more than 1000 cubic centimeters (cc) and the vitals of mother were fully normal and stable. The weight of child was 0.6 kilogram, the baby was apparently normal with low Apgar score; the baby was expired in 2 hours after delivery. The placenta tissue was sent for histopathology and was confirmed trophoblastic disease i.e., partial mole. Patient was followed-up from time to time for checkups, her β-HCG values returned to 0 mIU/ml in 8 weeks after the delivery of child.

Discussion

A partial mole occurs when a normal egg is fertilized by one or two sperm which then reduplicates itself, resulting in a triploid or tetraploid karyotype in the fetus. Partial molar pregnancy is an irregular pregnancy in which the embryo either grows incompletely, or doesn't grow at all which mostly ends in a miscarriage. A twin pregnancy with one fetus and a coexistent mole, used to be an unusual occurrence but in recent times it is more frequent possibly due to the rise in ovulation induction. In every 22,000-1,00,000 pregnancies 1 case is of a pregnancy with hydtidiform mole [1], most pregnancies are complete hydatidiform moles (CHM) with a fetus. The told incidence for a partial mole with a coexisting fetus is 0.005%-0.01% of pregnancies [2]. Ovulation induction is a treatment for infertility in women, in this procedure various medication are used to stimulate the ovary to form and discharge eggs.

Our patient had a twin pregnancy, a partial mole and a coexisting single normal fetus. Other than this there are 2 more types of molar pregnancy, one is a twin pregnancy with a normal fetus and a complete mole and the other a pregnancy with one normal fetus with partial molar placenta [3]. The most prevalent outcome for pre-birth diseases such as triploid fetus (due to various abnormal formations) and intrauterine fetal growth retardation (due to “limited normal functional placental circulation”) [4]. Multiple pregnancy with a hydatidiform mole and a coexisting live fetus is an uncommon form of gestational trophoblastic disease that is linked with a higher chance of obstetric complications and poor perinatal outcome [5]. Approximately 50% of all Gestational Trophoblastic Disease (GTD) take place after hydatidiform mole, while 25% occur after abortions or ectopic pregnancies [6]. To prevent any future implications during the pregnancy, the pregnant woman should be advised about the conditions and the possible outcomes beforehand and any complications that may arise during delivery or after delivery due to trophoblasti.

Symptoms associated with partial molar pregnancy are frequent bleeding per vagina in early pregnancy as early as 1st trimester, the color of blood ranges from bright red to brown, as experienced by our patient. The patient does feel nauseated a lot and vomiting frequently. There is case in which grape-like cysts pass out from the vagina as ovarian cysts are abundant. Patient also does complain of chronic pain in the pelvic region as exhibited in our patient. The patient also undergoes uterine growth at a slower rate which means uterus is growing at a slower size than it should be at that gestational age. The patient also suffers from preeclampsia in which the patient has high blood pressure and protein in the urine. The patient also suffers from anemia, high blood pressure and an overactive thyroid (hyperthyroidism). The patient has high β-HCG values due to increased growth of trophoblasts and growth of placenta. After the pregnancy terminates or the baby is delivered there is a risk of hemorrhage or cancer developing in the patient. In a study earlier of 90 subjects; bleeding per vaginum occurred in 90%, anemia was reported in 51%, hyperemesis gravidarum occurred in 29%, uterine size was increased more than the expected size for the gestational age was seen in 62% of cases, uterus was smaller than the gestational age in 12% of cases, ovarian enlargement occurred in 27% of cases [7].

In another study of 74 patients suffering from molar pregnancy the results were concluded as follows; bleeding per vaginum was most common in 84%. Excessive uterine size occurred in 28% of the population, preeclampsia in 1.3%, and hyperemesis in 8% current patients. The study however did not find any case regarding hyperthyroidism. Of the patients not receiving chemoprophylaxis, persistent gestational trophoblastic tumor resulted in 23% of current patients [8]. Choriocarcinoma could develop after antecedent normal pregnancy, abortion and hydatidiform mole. However, 25% of the cases of choriocarcinoma follow the hydatidiform mole, and with adequate follow-up of molar pregnancy, there is a decrease in the incidence of choriocarcinoma after hydatidiform mole [9].

The presentation of a partial hydatidiform mole is different from a complete mole and can be described as “usually less dramatic”. The clinical presentation of patients suffering from partial molar pregnancy is described above, it is similar to a “spontaneous abortion” including bleeding per vaginum. As there is a viable, live fetus when a color Doppler test is performed it does show fetal heart tones [10]. In molar pregnancy there is usually inconsistency between the gestational period of pregnancy and size of uterus at that period. In partial molar pregnancy the size of uterus is usually smaller than the usual uterus size at that gestational period. While, in complete molar pregnancy the uterus size is bigger as the uterus is growing at a very rapid rate. This can be examined by carrying out an ultrasound of the uterus and looking at the developments. Pelvic ultrasound is most common option for an examination to confirm the presence of a hydatidiform mole. The ultrasound findings in a complete molar pregnancy include a “heterogeneous mass in the uterine cavity with multiple anechoic spaces”, known as a "snowstorm" appearance [11]. The ultrasound findings of a partial molar pregnancy include a live and viable fetus, occurrence of amniotic fluid, an enlarged placenta and cystic spaces, which are usually described as "Swiss cheese" appearance [10]. In 15% to 60% cases partial moles were diagnosed as a missed or incomplete abortion, an earlier study had concluded [12]. Conversely, in early pregnancy, ultrasonography may not be able to differentiate the villi, as the vesicles are too small and the interfaces too numerous [13]. Partial molar pregnancy can be diagnosed by performing an ultrasound which reveals presence of cysts in the uterus especially placenta, low amniotic fluid and less developed fetus. A test is carried out that measures the levels of beta Human Chorionic Gonadotropin (HCG). Using these techniques it is a possibility to diagnose partial mole very early in the pregnancy and manage accordingly, an ultrasonic scan should be prescribed by the physician if patient exhibits any of the sign of Gestational Trophoblastic Disease (GTD) symptoms. The earlier diagnosis of molar pregnancy, as early as first trimester, is possible even more since the introduction of ultrasonography.

Conclusion

Hydatidiform Mole (HM) is the most frequent form of Gestational Trophoblastic Disease (GTD). Twin molar pregnancy with a coexisting live fetus and a partial mole is a very uncommon condition. The Symptoms associated with partial molar pregnancy are frequent bleeding from the vagina in early pregnancy, severe vomiting and nausea, weight loss, and possibly dehydration high blood pressure, pain in the pelvic region and grape-like cysts being passed out. Other symptoms may also include slower uterine growth (the uterus is growing at a slower rate than the progression of pregnancy), Preeclampsia (which is a state that causes high blood pressure and protein in the urine after 20 weeks of pregnancy), Anemia, Overactive thyroid (hyperthyroidism).

Partial molar pregnancy can have grave complications and an early treatment should be provided to prevent any complication. Persistent Gestational Trophoblastic Neoplasia (GTN) is a condition included in the Gestational Trophoblastic Disease (GTD) in which after the delivery of fetus or abortion, molar tissue may remain and continue to grow. More than half of the cases of persistent GTN occurs after hydatidiform mole. One indication of persistent GTN is a high level of Human Chorionic Gonadotropin (HCG) even after pregnancy ends. In extreme cases a rare form of cancer may result. In some cases, an invasive hydatidiform mole penetrates deep into the middle layer of the uterine wall, which causes vaginal bleeding. Persistent GTN can nearly always be successfully treated, most often with chemotherapy. Another treatment option is removal of the uterus (hysterectomy). A partial molar pregnancy is usually diagnosed by an ultrasound test; presence of cysts in ovary, uterus, and thickened placenta may indicate presence of a mole with an associated fetus. A blood or urine test may also be carried out to check the levels of hormone HCG (Human Chorionic Gonadotrophin) which in molar pregnancy are much higher than in normal pregnancy. These tests are proven to be very successful in checking the development of condition. In the case that results come positive for a partial molar pregnancy,

there is an option on the table to have the pregnancy terminated which is by far the best option. Amniocentesis is the preferred method of confirming the pregnancy of abnormality in the fetus. In majority of the cases in older times the pregnancy was terminated to prevent any complications during a partial molar pregnancy but in recent times with advancement in technology it is easier to get an earlier diagnosis and safely work to achieve a more favorable result and avoid complications in mother after the delivery of fetus.

Informed Consent

The patient was fully autonomous, and an informed written consent was taken for publication of this case report and the attached images.

Author Contributions

SMA: Writing the paper, Acquisition of data, Drafting the paper, Critical revision of the article, Final approval of the version to be published.

SA: Acquisition of data, Critical review and revision of the article, Final approval of the version to be published.

TS: Acquisition of data, Critical review and revision of the article, Final approval of the version to be published.

Data Availability

The authors declare that data supporting the findings of this study are available within the article.

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