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Short communication

Hydatidiform mole co-existing with a normal fetus: the role of magnetic resonance imaging

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Abstract
In cases like molar pregnancy, it is difficult to distinguish between partial hydatidiform mole from complete hydatidiform mole diagnostically. The levels of βhcg and ultrasonography cannot alone be the diagnostic modalities for diagnosis. Using other modalities like magnetic resonance imaging can be useful in attaining a better diagnosis and prognosis. In our case report, an asymptomatic female patient with molar pregnancy was diagnosed by ultrasonography initially and was confirmed as partial mole by magnetic resonance imaging.
Key words: Mole, gestational trophoblastic disease, ultrasonography, magnetic resonance imaging.

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Molar pregnancy, which could be either partial or complete is a form of gestational trophoblastic disease (GTD) characterized by hydropic degeneration of the chorionic villi in utero [1]. A partial mole has some fetal components with an abnormal placenta whereas a complete mole has no fetal components which are replaced by the abnormal placental tissue. A complete mole with a live coexistent fetus is a rarity which could be possibly due to twin pregnancy with one of the twins being normal and the other a complete mole or single pregnancy with a partial mole and a live fetus. A complete mole has a diploid chromosome of paternal origin due to fertilization of an empty ovum by a haploid sperm which duplicates whereas a partial mole has a triploid chromosome resulting from fertilization of a haploid ovum by two sperms. The objective of the study was to evaluate the role of magnetic resonance imaging in the diagnosis of hydatidiform mole.

An asymptomatic 27 year old G3P1A1 female with 21^{+6} weeks of gestational age came to the outpatient department for her routine obstetric check up. Because of the discrepancy in the gestational age and the uterine height, ultrasonography (USG) was advised. The USG performed revealed a single live fetus with a normal placenta along the anterior uterine wall and an ill defined multiloculated cystic lesion (18.5 x 8 cm^2) along the left postero-lateral wall with increased echogenicity and honey-comb pattern.

The margins with the underlying uterus were indistinct and increased vascularity was noted at utero-placental interface on Doppler studies. A provisional ultrasonographic diagnosis of molar pregnancy was established and the patient was referred to the magnetic resonance imaging (MRI) for the confirmation of the diagnosis as well as assessing the myometrial invasion. The βhcg titer was 321099 mIU/ml and the recorded blood pressure was normal. The liver enzymes were within normal limits. The previous USG, which was performed in her first trimester was unremarkable with a single live embryo. The pregnancy was a spontaneous one and no assisted techniques of reproduction were employed.

The MRI was performed on MAGNETOM® Avanto Siemens 1.5T (Germany). Predominantly heavy T2 weighted sequences T2-HASTE (Half Fourier Acquisition Single Turbo Spin Echo) and T2-TRUFI (True Fast Imaging with steady precision) were performed with a 4 mm slice thickness in all the three orthogonal planes which were supplemented with T1 and diffusion (B=50, 400, 800) weighted sequences. The MRI revealed a heterogeneous cystic mass along the left postero-lateral uterine wall extending to the lower segment covering the internal os with long T1 and T2 and no restricted diffusion (b= 50-800). A single live fetus was seen anterior to it in cephalic presentation with a remaining normal placenta along the anterior uterine wall. No obvious infiltration of the myometrium or the amniotic sac was seen. Enlargement of both the ovaries was noted with theca lutein cysts. A diagnosis of partial mole with a live fetus was made and the patient was counseled for the risk of continuation of the pregnancy. The patient opted for termination of the pregnancy. Extraction of the mole was performed surgically; the placenta and part of it consisted of edematous villi which weighed 500 g while the remaining placenta appeared normal. The pathological diagnosis of the partial mole was made. There was a remarkable fall in the serum βhcg to 29413mIU/ml which normalized over a period of two

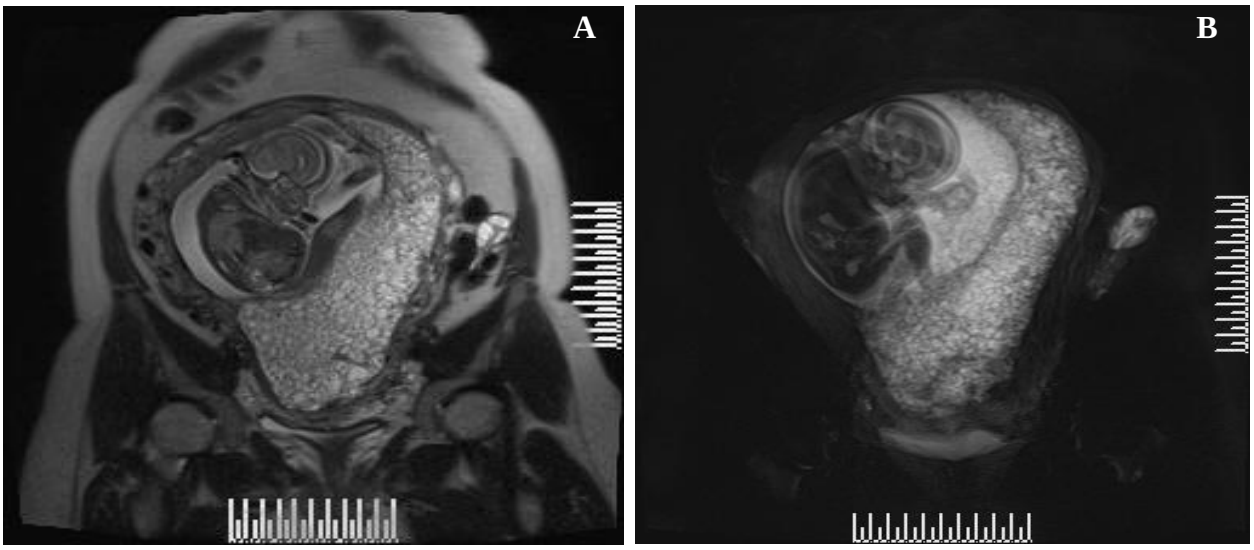

Fig. 1: Coronal T2 HASTE (**A**) and 2D T2 HASTE (**B**) image of the uterus showing a fetus in the right side and a large multicystic mass located in the left of the uterus.

weeks from the post-operative day. The patient is on a follow up with no chemotherapy, there hasn't been any evidence of choriocarcinoma or metastasis to date.

Molar pregnancies are one of the most common types of gestational trophoblastic disease with a spectrum of clinical presentation and the complete mole being commoner than the partial mole [1,11], Ranging from asymptomatic (as in our case) to hyper emesis, pre-eclampsia, thyrotoxicosis, vaginal bleeding and frank progression to chorio-carcinoma with distant metastasis or recurrence. The risk of progressing to gestational trophoblastic disease is higher in complete mole as compared to the partial mole [12]. Once the diagnosis of a molar pregnancy is established, the next step is to confirm the pathological diagnosis of a partial or complete mole. Jerome et al conclude that the risk of GTD is not affected by whether the pregnancy reaches full term or is prematurely terminated [13]. The gold standard for initial radiologic evaluation is by ultrasonography. It can confidently make a diagnosis of molar pregnancy and look for vascularity. The ovarian theca lutein cysts could also be imaged in most of the cases. Yet ultrasonography is the gold standard tool for imaging molar pregnancy, partial mole has its limitations compared to the complete hydatidiform mole. Stellar et al. reported that only 68% of patients with hydatidiform mole and co-existing fetus were diagnosed correctly by abdominal ultrasonography [2]. Lindholm et al. reported that only 30% of partial moles were diagnosed by ultrasound [3]. Fowler and John report in their research that only 40-60% of cases were detected as molar by sonography in routine clinical practice [4, 5]. The βhcg can also be a marker for the molar pregnancy, but can be elevated in normal pregnancy within 7-10 weeks as reported by Kayutse in his report [6]. Magnetic resonance imaging is the preferred tool for visualizing the normal placental site, the relationship between the fetus and the vesicles, and the extension of the disease to myometrium and parametrium [7, 8]. In recent studies done by Duygu, MRI is routinely not employed for evaluation, but can act as a useful adjunct [9]. The break in the continuity of the dark myometrial rim on T2 weighted images implies myometrial invasion which increases the maternal complications and significantly alter the clinical outcome, thus MRI could be a useful problem solving modality in suspicious cases. Therefore, MRI is safe in the late second trimester can be useful as an adjunct to ultrasonography [10].

Ultrasonography is the preferred tool for initial evaluation of molar pregnancy with serial monitoring of measurements of serum βhcg for follow up. USG is also a tool for follow up imaging [11]. The MRI acts as an alternative in confirming the diagnosis and assessing the myometrial infiltration with certainty.

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