

## Case Report

# An Unusual First-Trimester Sonographic Finding Associated with Development of Hydatidiform Mole: The Hyperechoic Ovoid Mass

R. A. Bronson<sup>1</sup> and G. L. van de Vegte<sup>2</sup>

The characteristic vesicular sonographic appearance diagnostic of hydatidiform mole is generally not seen early in pregnancy, and first-trimester findings often cannot be distinguished from those of incomplete or missed abortion [1, 2]. This report describes the unusual finding of an ovoid hyperechoic mass within a well-defined gestational sac visualized on endovaginal sonograms at 6.5 weeks' gestation and associated with subsequent development of a molar pregnancy. It may represent the earliest reported sonographic appearance of a molar pregnancy.

### Case Report

A 24-year-old nulliparous woman had had chronic intermittent pain in the right lower quadrant for 4 months and irregular menses (at 12 and 5 weeks before her visit). She was sexually active and had attempted to conceive during the past 9 months.

At the time of her first visit, physical examination showed minimal abdominal tenderness deep in the right lower quadrant of the abdomen. The right ovary was not tender on examination, and its size on a vaginal sonogram was 34 × 24 mm. Sonograms showed a hyperechoic unilocular cyst 15 mm in diameter at the proximal pole of the right ovary, which appeared to be consistent with a hemorrhagic corpus luteum or endometrioma. No evidence of intrauterine gestation was seen. Results of routine laboratory tests, including a complete blood cell count and SMA23, and levels of prolactin and thyroid-stimulating hormone were normal. The serum level of human chorionic gonadotropin (HCG) was 350 mIU/ml (first international reference preparation [IRP]) on the day of examination. Two weeks later,

endovaginal sonography showed an intrauterine gestational sac, 17 × 12 mm, containing a uniformly hyperechoic ovoid mass 13 mm in greatest length (Fig. 1A). Neither a distinct fetal pole nor a yolk sac was seen. No cardiac activity was noted. Serum level of HCG at this time was 42,000 mIU/ml.

Ten days later, the patient had vaginal staining for 2 days, but without cramping. Physical examination showed that the size of the uterus was consistent with 8 weeks' gestation, which also was consistent with the last menstrual period. No adnexal masses or tenderness were present. Endovaginal sonograms showed an enlarged uterus, 57 × 47 mm in axial dimensions, containing a diffuse, central heterogeneous mass with several cystic regions (Fig. 1B). No definable fetal pole was detected. Serum level of HCG had risen to 140,000 mIU/ml. At this time, the patient complained of mild nausea and jitteriness.

Suction curettage was performed, and pathologic examination confirmed the diagnosis of a hydatidiform mole. Ten days later, the serum level of HCG had dropped to 6100 mIU/ml. The serum level subsequently plateaued at 6600 mIU/ml, and 1 week later was 6840 mIU/ml. At this time, the patient began taking methotrexate and leucovorin as an outpatient. Serum HCG measurements returned to undetectable levels and have remained so.

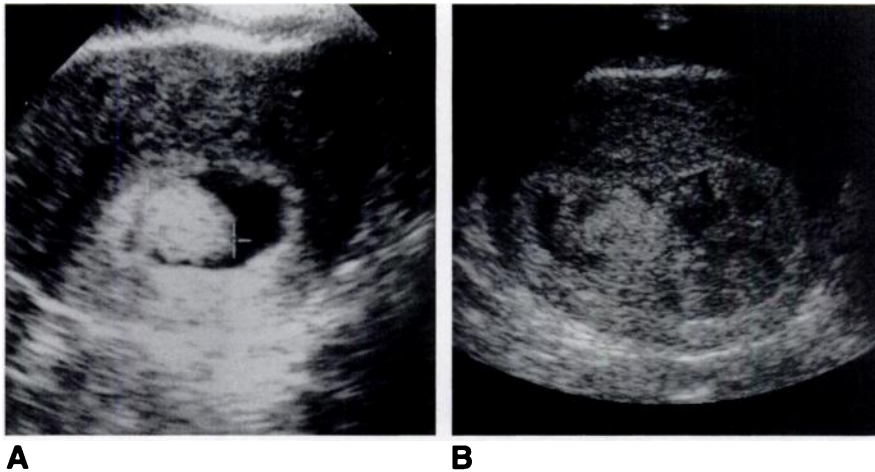
### Discussion

Complete molar pregnancy has a classic second-trimester sonographic appearance of a central echogenic uterine mass with a characteristic vesicular pattern due to marked, generalized swelling of chorionic villi [3]. However, these

Received May 26, 1992; accepted after revision July 13, 1992.

<sup>1</sup>Department of Obstetrics/Gynecology, Health Sciences Center, State University of New York, Stony Brook, NY 11794. Address reprint requests to R. A. Bronson, Division of Reproductive Endocrinology, Health Sciences Center, T9-060, Stony Brook, NY 11794-8091.

<sup>2</sup>Department of Radiology, Health Sciences Center, State University of New York, Stony Brook, NY 11794.



**Fig. 1.**—24-year-old nulliparous woman with chronic intermittent pain in right lower quadrant of abdomen for 4 months and irregular menses.

**A,** Endovaginal sonogram shows a well-formed intrauterine gestational sac containing only a 13-mm echogenic ovoid mass (between callipers).

**B,** Sonogram obtained 10 days after **A** shows no evidence of intrauterine gestational sac, but rather a central heterogeneous uterine mass with multiple cystic areas suggestive of molar gestation.

typical findings may not be visible on transabdominal sonograms obtained early in the first trimester.

Szulman and Surti [4] have observed a linear relationship between gestational age of a molar pregnancy and the size of the hydropic villi on macroscopic examination. Hence, although vesicles are also present in first-trimester complete moles, they may be too small to be visualized on transabdominal sonograms. During the first trimester, then, molar pregnancies often lack the characteristic pattern of second-trimester trophoblastic disease and are often confused with missed or incomplete abortion.

During the first trimester, endovaginal sonography provides better imaging resolution than transabdominal scanning does, making it possible to diagnose an abnormal pregnancy earlier in gestation. A gestational sac can be observed on endovaginal sonograms at serum HCG levels as low as 1000–1500 mIU/ml (first IRP), vs the minimum HCG level of 6500 mIU/ml for visualization on transabdominal sonograms [5].

In the present case, an intrauterine gestation was confirmed by endovaginal sonography at 6.5 weeks' gestation. However, a recognizable fetal pole and yolk sac were not visualized, and the gestational sac contained only an ovoid, 13-mm, homogeneously echogenic mass. Further clinical monitoring in the first trimester showed that the uterus enlarged, containing a heterogeneous central mass with early vesicular features consistent with the appearance of a molar pregnancy.

In 1979, Anderson et al. [6] reported a similar unusual finding in a woman who was proved to have a hydatidiform

mole. At 10 weeks' gestation, the uterus was clinically enlarged for dates, consistent with a pregnancy of 13–14 weeks, and contained an irregular gestational sac, with a uniformly echogenic mass adjacent to the sac wall. This mass was initially thought to be the remnants of a fetus, but no fetal tissue was found within the contents evacuated from the uterus.

The progression of findings in our case, as well as the previous report of Anderson et al. [6], leads us to suggest that the detection of a hyperechoic ovoid mass within an otherwise empty gestational sac during the first trimester should suggest the possibility of molar pregnancy and the need for follow-up studies.

#### REFERENCES

1. Woodward RM, Filly RA, Callen PW. First trimester molar pregnancy: nonspecific ultrasonographic appearance. *Obstet Gynecol* 1980;55:315–335
2. Wittmann BK, Fulton L, Cooperberg PL, Lyons EA, Miller C, Shaw D. Molar pregnancy: early diagnosis by ultrasound. *JCU J Clin Ultrasound* 1981;9:153–156
3. Fleischer AC, James AE Jr, Krause DA, James JB. Sonographic patterns in trophoblastic disease. *Radiology* 1978;126:215–220
4. Szulman AE, Surti U. The syndromes of hydatidiform mole. Morphologic evaluation of the complete and partial mole. *Am J Obstet Gynecol* 1978;132:20–27
5. Kadar N, DeJore G, Romero R. Discriminatory HCG zone: its use in the sonographic evaluation for ectopic pregnancy. *Obstet Gynecol* 1981;58:156–161
6. Anderson JC, Faulker KC, Moir JE. Ultrasonography in an early hydatidiform mole. *Med J Aust* 1979;1:407–408