

ULTRASONIC CHARACTERISTICS OF PARTIAL HYDATIDIFORM MOLE

(ultrasound/partial hydatidiform mole)

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(Received March 1, 1988/Accepted May 8, 1988)

Ultrasonograms of fifteen cases of pathologically proven partial hydatidiform mole at Shimane Medical University Hospital, Japan, occurring from April 1980 to October 1986, were studied. Evaluation was made by a combination of the following sonographic findings: (a) deformity of gestational sac, (b) subchorionic echo-free space, (c) small vesicles in the chorionic tissue, (d) sonographic pattern of the chorionic tissue. Four types were discerned.

This study is useful to establish the characteristic sonographic criteria of partial hydatidiform mole.

Partial moles are rarely correctly diagnosed prior to pathological examination, since symptoms tend to be few, the uterus remains small rather than large for date, and a prolonged retention of a dead embryo or fetus is common (1). These partial moles often tend to be diagnosed as a blighted ovum or missed abortion on the basis of ultrasonography (2). The sonographic appearance of a partial mole has been reported (1, 3, 4). We describe herein our experience with partial mole.

MATERIALS AND METHODS

Fifteen cases of histologically proven partial hydatidiform mole managed at Shimane Medical University, Japan, from April 1980 to January 1987, were the subjects of this study. The appearances of the preoperative sonograms were retrospectively

evaluated, directing attention to the following sonographic findings: (a) deformity of gestational sac, (b) subchorionic echo-free space, (c) small vesicles in the chorionic tissue, (d) sonographic pattern of the chorionic tissue.

The instruments used in this study were Aloka SSD-256 (3.5 MHz), Sonovista-PH (3.5 MHz), Toshiba SAL-20A (3.5 MHz) and Toshiba SAL-35A (3.5 MHz).

RESULTS

Fifteen sonograms of partial hydatidiform moles were separated into 4 types, according to the sonographic appearance (Table 1).

Type A presents small vesicles in the chorionic tissue, a homogenous sonographic pattern of the chorionic tissue, no deformity of the gestational sac and no subchorionic echo-free space (Fig.1). Subchorionic echo-free spaces are recognized in type B, and the other three points are the same as type A (Fig.2). The sonogram of type C has an irregular wall of the gestational sac, a subchorionic echo-free space, small vesicles in the chorionic tissue and a heterogenous sonographic pattern of the chorionic tissue (Fig.3). In type D, the gestational sac is deformed, the subchorionic echo-free space is absent, small vesicles in the chorionic tissue are present and the chorionic tissue is heterogenous.

Table 1 Sonographic findings of partial hydatidiform mole

Case	Deformity of gestational sac	Subchorionic echo free space	Small vesicles in the chorionic tissue	Sonographic pattern of the chorionic tissue	Sonographic type*
1	-	-	+	homogenous	A
2	-	-	+	homogenous	A
3	-	-	+	homogenous	A
4	-	-	+	homogenous	A
5	-	+	+	homogenous	B
6	+	+	+	heterogenous	C
7	+	+	+	heterogenous	C
8	+	+	+	heterogenous	C
9	+	-	+	heterogenous	D
10	+	-	+	heterogenous	D
11	+	-	+	heterogenous	D
12	+	-	+	heterogenous	D
13	+	-	+	heterogenous	D
14	+	-	+	heterogenous	D
15	+	-	+	heterogenous	D

* See text



Fig.1. Type A. The gestational sac(GS) is intact, the subchorionic echo-free space is absent, small vesicles(arrows) in the chorionic tissue are present and the sonographic pattern of the chorionic tissue is homogenous.

Fig.2. Type B. The gestational sac(GS) has no apparent deformity, the subchorionic echo-free space(arrow) is recognized, small vesicles in the chorionic tissue are present and the chorionic tissue is homogenous.

Fig.3. Type C. The wall of the sac(GS) is irregular, there is a subchorionic echo-free space(arrow), small vesicles in the chorionic tissue are present and the sonographic appearance of chorionic tissue is heterogenous.

Fig.4. Type D. The sac(GS) has a deformity, the subchorionic echo-free space is not evident, small vesicles in the chorionic tissue are present and the chorionic tissue is heterogenous.
BL: bladder.

DISCUSSION

Partial hydatidiform mole differs morphologically and cytologically from the complete mole (5, 6). The complete mole is without an ascertainable embryo/fetus, has a diploid karyotype, and manifests a progressive fluid engorgement of the villi as well as a gross, haphazardly distributed trophoblastic hyperplasia. The partial mole has an ascertainable fetus (living or dead), has a triploid karyotype, and exhibits a slowly progressing hydatidiform swelling in the presence of functioning villous capillaries that spares many villi, trophoblastic immaturity is constant and focal hyperplasia is inconspicuous but present (5). Previously, partial hydatidiform mole was not be considered to be potentially malignant (6), but recently a tendency toward malignancy of the partial mole has been reported (7). A correct preoperative diagnosis by sonography will aid in alerting the pathologist to the possibility of the former condition. However, there is no known single ultrasonic appearance that is specific for the partial mole.

Naumoff et al. (1) reported that the characteristic sonographic findings were greatly enlarged placental relative to the size of the uterine cavity, cystic spaces within the placenta, gestational sac, either empty or containing amorphous fetal echoes and a well-formed but growth-retarded fetus, either dead or alive. Woo et al. (4) mentioned that following sonographic appearances were seen on the sonograms of partial moles: A homogeneous spiculed echo pattern with scattered small sonolucent spaces, heterogeneous echo areas with an irregular sonolucent space and a relatively large size of the gestational sac with a surrounding thick rim of placenta-like echoes. We retrospectively evaluated fifteen sonograms of partial moles according to the sonographic appearances and noted 4 definite types. Type A is characterized by only small vesicles in the chorionic tissue. Although this finding is occasionally recognized in a nonmolar placenta (1), the small vesicles demonstrated in type A are gross and clearly abnormal. In addition to small vesicles in the chorionic tissue, type B has a subchorionic echo-free space. Types A and B have no deformity of the gestational sac and a homogenous chorionic tissue. When a deformity of the gestational sac is present, the sonographic pattern of the chorionic tissue is heterogenous. With a partial

hydatidiform, there is often early fetal demise secondary to triploidy, and the surrounding trophoblastic hyperplasia tends to prevent the sac from collapsing (4). In our studies, as ten out of fifteen (66.7%) had a deformity of the gestational sac, this finding seems to be one characteristic of the partial mole.

CONCLUSION

Partial mole can be diagnosed preoperatively by a combination of the following sonographic findings: deformity of gestational sac, subchorionic echo-free space, small vesicles in the chorionic tissue and appearance of the chorionic tissue.

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