



Letter to the Editor

Early pregnancy-associated cardiomyopathy complicated with a complete hydatidiform mole coexistent with a live fetus and exacerbated by induced abortion



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Cardiomyopathy associated with pregnancy is a rare disorder referred to as peripartum cardiomyopathy. Onset of peripartum cardiomyopathy, as defined by classic criteria, is limited to the last gestational month and the first 5 months after delivery [1]. Several reports, however, describe a number of patients who developed heart failure earlier than the last gestational month [2,3], and their clinical presentations and outcomes were similar to those of patients with traditional peripartum cardiomyopathy. Therefore their diagnosis is referred to as early pregnancy-associated cardiomyopathy (PACM) [2].

Pregnancy with a complete hydatidiform mole coexistent with a live fetus (CMCF) is also extremely rare, and is characterized by complications such as early onset preeclampsia [4].

Here we report the first case, to our knowledge, of early PACM complicated with CMCF, and exacerbated by induced abortion.

A 33-year-old Japanese primigravida with an unremarkable past medical history, became pregnant after ovulation induction and intra-uterine insemination. She was referred to our institution at 11 weeks gestation with suspected CMCF. She had mild hyperemesis gravidarum and leg edema. Her serum β -human chorionic gonadotropin level was significantly elevated (1,137,510 mIU/ml).

Transabdominal ultrasound revealed a live normal fetus and placenta under a large mass resembling molar placenta located in the anterior uterine wall (Fig. 1).

She was diagnosed with CMCF. She was then admitted to our hospital at 12 weeks gestation.

After admission, she developed complications; hypertension from 13 weeks gestation and a slowly developing leg edema. The chest X-ray acquired at 21 days after admission (15 weeks gestation) showed further cardiac enlargement with a cardiac thoracic ratio (CTR) of 53.6%

(Fig. 2 upper middle) compared to a CTR of 43.6% acquired 1 day post-admission (12 weeks gestation) (Fig. 2 upper left). Serum brain natriuretic peptide (BNP) level was also markedly elevated (1480.3 pg/ml) at 15 weeks gestation. Transthoracic echocardiogram (TTE) demonstrated preserved left ventricular (LV) ejection fraction (LVEF) (59%) with LV dilation and mild pericardial effusion, but did not fit the criteria for PACM (LVEF <45 [2,5] or <50% [3]).

Because the risk of exacerbated heart failure was estimated to be high with a low likelihood of a live birth, dilation and evacuation for termination of pregnancy was performed under general anesthesia. As bleeding was excessive (2400 g) during the operation, she required 6 units of red blood cell transfusion. The fetus with normal placenta and an enlarged molar placenta which weighed 1350 g were delivered (Fig. 3).

Histopathological examination revealed normal sized villi in the normal placental region, edematous villi with frequent cistern formation, and hyperplastic trophoblasts in the molar region. The p57KIP2 immunohistochemical staining of cytotrophoblasts were positive in the normal placental region and negative in the molar region.

She developed dyspnea 12 h after the induced abortion and her chest X-ray revealed severe cardiac enlargement with a CTR of 60.1% and increasing pulmonary vascular congestion (Fig. 2 upper right). TTE demonstrated a reduced LVEF of 29% with emerging, moderate mitral regurgitation and mild tricuspid regurgitation. Her clinical profile fitted the criteria for PACM (LVEF <45% [2,5] or <50% [3]). Her BNP level increased to 1983.8 pg/ml. Following the diagnosis of PACM, diuretics were started and she responded well, allowing cessation of oxygen supplementation and early tapering of her diuretic dose. A subsequent cardiac computed tomography (Aquilion one, Toshiba Medical) acquired 9 days after the induced abortion revealed normal coronary arteries and no pulmonary thromboembolism. A TTE acquired 11 days after the induced abortion, showed improvement in LVEF to 50%. A chest X-ray acquired at 14 days after the induced abortion revealed CTR improvement to 50.5% (Fig. 2 lower left). Serum BNP level improved to 310.6 pg/ml.

The patient was discharged 15 days after the induced abortion, requiring only a single daily dose of oral 10 mg furosemide. The chest X-ray acquired at 16 days after discharge, showed further CTR improvement to 43.2% (Fig. 2 lower middle) and her serum BNP level had also improved to 24.3 pg/ml.

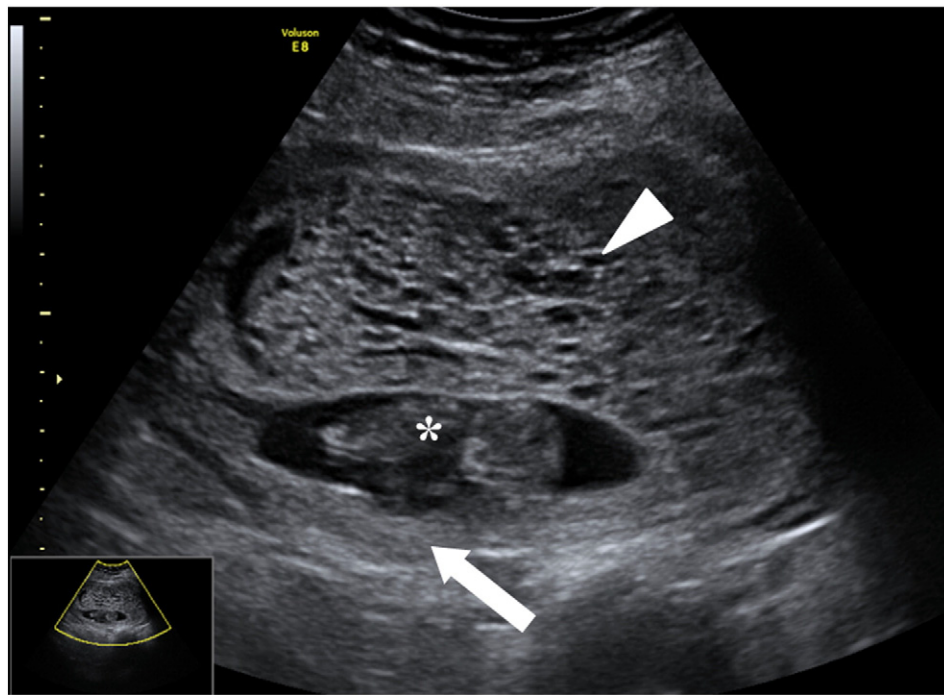


Fig. 1. Transabdominal ultrasound. Transabdominal ultrasound showing a live normal fetus (asterisk) and placenta (arrow), consistent with the gestational age, under a large mass resembling molar placenta located at the anterior uterine wall (arrow head).

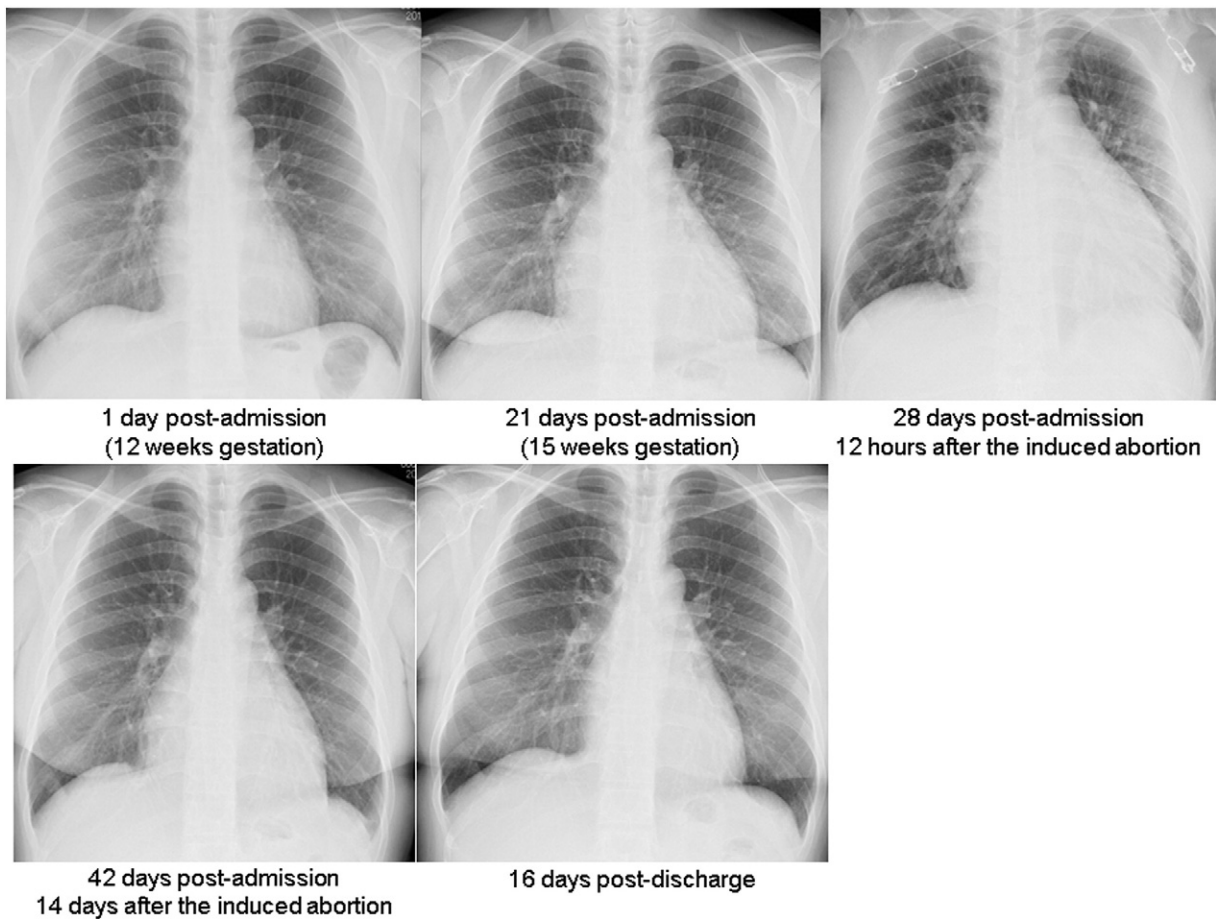


Fig. 2. Series of chest X-rays (all posterior–anterior view on standing position except upper right X-ray, which is anterior–posterior view on supine position). Upper left; at 1 day after admission to our hospital (12 weeks gestation) the cardiac thoracic ratio (CTR) was 43.6%. Upper middle; at 21 days after admission (15 weeks gestation), the CTR was 53.6%. Upper right; at 28 days after admission, and at 12 h after the induced abortion, the CTR was 60.1% with worsened pulmonary vascular congestion. Lower left; at 42 days after the admission, and 14 days after the induced abortion, the CTR improved to 50.5%. Lower middle; at 16 days after discharge from our hospital, the CTR improved to 43.2%.

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