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Case Report

Early diagnosis and treatment of hydatidiform mole in adolescent pregnant woman

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ABSTRACT

Hydatidiform mole belongs to the spectrum of gestational trophoblastic disorders in which abnormal conception leads to excess placental tissue formation in the absence of fetal development. The incidence of hydatidiform mole is quite rare so that not all experienced clinicians handle this case in clinical experience. Therefore, we present a case of hydatidiform mole in an adolescent patient. A 14-year-old primigravida woman, unemployed, with elementary school education, with a gestational age of 16 weeks went to the ER with complaints of vaginal bleeding for 2 days. Physical examination found the fundal height at umbilicus, abdominal tenderness, accompanied by vaginal bloody discharge. Complete blood count found mild normochromic anemia with increased levels of T3 and decreased TSH. Ultrasound imaging found a typical vesicular pattern of a hydatidiform mole. Treatment of molar evacuation by curettage and drainage was carried out one day after presentation and obtained 600 grams of molar tissue. The patient underwent 24 hours of post-operative observation before being discharged in a stable state. The patient presented with a typical clinical appearance of hydatidiform mole. Ultrasound imaging reveals a typical complete hydatidiform mole accompanied by anemia and hyperthyroxinemic which may accompany hydatidiform mole. Evacuation was carried out according to clinical guidelines and the patient was discharged in a good condition.

Keywords: Hydatidiform mole, Pregnancy bleeding, Teenage pregnancy, High risk pregnancy

INTRODUCTION

Hydatidiform mole belongs to a group of diseases called gestational trophoblastic disease in which abnormal trophoblastic tissue growth occurs in the uterus after conception. Hydatidiform mole itself is an abnormal conception disorder in which there is excess placental tissue formation in the absence of fetal or embryonic development.[1]

Although relatively rare, the incidence of hydatidiform mole in pregnancy still needs to be considered. Data in Europe reports an incidence rate that varies from 0.98 events per 1,000 live deliveries to 2.17 events per 1,000 live deliveries. Meanwhile, in Denmark, a country in Europe, the incidence of hydatidiform mole was reported at 1.98 per 1,000 live deliveries.[2] Another study in Sweden reported a comparable incidence rate of 2.08 events per 1,000 live deliveries and 1.48 events per 1,000 live deliveries.[3] In Asia, there is a study in Thailand which reported the incidence of hydatidiform mole of 1.70 out of 1,000 live deliveries.[4]

Meanwhile, the incidence of hydatidiform mole in Indonesia itself is the highest in the world. One study reported the incidence of hydatidiform mole in Indonesia are in the range of 1 out of 141 pregnancies until 1 of 51 pregnancies, about ten times higher than those reported in Europe.[5] Another study reported the incidence of hydatidiform mole as 13 times out of 1,000

pregnancies, ranking the highest in the world ahead of Taiwan, China, and Japan, which reported 8, 5, and 3.8 events per 1,000 pregnancies, respectively.[6]

The diagnosis of hydatidiform mole is often delayed for one reason or another. Inadequate antenatal care often results in delayed detection of hydatidiform mole.[7] In addition, the patient's initial presentation of frequent vaginal bleeding is often nonspecific and is also found in complications of pregnancy such as incomplete abortion or interrupted ectopic pregnancy.[8]

Hydatidiform mole itself is at risk of causing short-term and long-term complications for sufferers. Hydatidiform mole can be accompanied by thyroid disorders. In addition, bleeding, which is often the patient's initial complaint, can cause anemia if left untreated for a long time.[8] Even after treatment, hydatidiform mole can spread systemically into trophoblastic malignancies with a risk of between 5% and 15% of patients.[1]

Considering the high incidence of hydatidiform mole in Indonesia coupled with the difficulty of diagnosis and the incidence of complications, it is important for clinicians who are in charge of treating obstetric patients to always update their knowledge about this disease. However, not all clinics have the opportunity to find and treat this disease directly. Therefore, on this occasion we present a case of hydatidiform mole in a young pregnant woman as a learning opportunity together.

CASE REPORT

A 14-year-old pregnant woman came to the emergency room accompanied by her mother and husband complaining of vaginal bleeding from 2 days before presentation. Bleeding is not preceded by a specific event. Patients and families report fresh blood that is reddish in color, without clots, and has no smell. The volume of blood loss is equivalent to menstruation and the patient must change the sanitary napkin 3-4 times a day during bleeding.

The patient denies previous history of vaginal discharge during pregnancy. The patient also denied any other pregnancy complaints along with the bleeding. The patient admitted that she did not feel abdominal pain or contractions. The patient also denies other systemic complaints such as fever or weakness.

Currently the patient is pregnant with a gestational age of 4 months. Patients do not remember the first day of their last menstrual period and remember the gestational age from the education given by the midwife. The patient had just had her pregnancy checked once at the midwife. The patient and husband admitted that they were still actively engaging in coitus during pregnancy with a history of last sexual intercourse 2 weeks before presentation. The patient's obstetric history included menarche at 12 years of age and had never experienced menstrual abnormalities, never used contraception, and did not routinely use any drugs.

Socioeconomically, the patient is of low socioeconomic status. The patient herself is currently not working with the elementary level education. The patient's husband is 20 years old, does not work, with elementary level education. Likewise, the patient's mother, currently 41 years old, works as a housewife with elementary education. Meanwhile, the patient's father works as informal laborer with an education level equivalent to elementary school (Table 1).

Table 1: Complete blood count results from February 19th 2021.

Variables	Results	Reference value	Note
Leukocytes ($\times10^3$/µl)	8.2	4.6-10.2	---
Lymphocytes ($\times10^3$/µl)	2.3	0.8-4.0	---
Granulocytes ($\times10^3$/µl)	5.3	2.0 -7.7	---
Erythrocytes ($\times10^6$/µl)	3.94	4.7-6.1	Low
Hemoglobin (g/dl)	10.1	12.2-18.0	Low
Hematocrit (%)	31.6	37.7-53.7	Low
MCV (fl)	80.3	80.0-97.0	
MCH (pg)	25.6	27.0-31.0	Low
MCHC (g/dl)	32.0	31.0-37.0	---
RDW (%)	12.2	11.6-14.8	---
Thrombocytes ($\times10^3$/µl)	195	150-450	---
TSH (IU/ml)	0.05	0.5-1.70	---
T3 (nmol/ml)	0.70	0.35-0.69	High
T4 (nmol/ml)	20.0	10.6-22.6	---

On physical examination found vital signs within normal limits with systolic and diastolic blood pressures respectively 100 mmHg and 70 mmHg, pulse rate of 82 beats per minute, respiration of 22 times per minute, and body temperature of 36.7° C. Obstetric examination found the distended abdomen with striae. On palpation, the uterine fundal height is equal to the umbilicus, there is no ballottation sign, and with tenderness. On Doppler ultrasonography, there was no fetal heart rate. Examination of the birth canal with a speculum found a hyperaemic portio, closed external uterine orificium, inactive bleeding, and a non-prominent Douglas cavity (Figure 1).

Investigations are carried out in the form of a urine-based pregnancy rapid test with a positive result. Further examination is performed with obstetric abdominal ultrasound imaging. The results showed a vesicular pattern with lutein cysts measuring 5 cm by 6 cm (Figure 1). No free fluid was found in the Douglas

cavity. Laboratory tests were also performed, including complete blood count and thyroid profile (Table 1).

Figure 1: Vesicular pattern visible on obstetric ultrasonography.

Figure 2: Clinical history of the patient's care in hospital.

Based on history, physical and obstetric examination results, and supported by ultrasound imaging results, the patient's diagnosis was confirmed, namely pregnancy $G_1P_0A_0$ with a complete hydatidiform mole. As a treatment, the patient is planned to undergo curettage and drainage under general anesthesia. Course of patient care can be seen in Figure 2.

The surgical procedure was performed in the operating room one day after the presentation in the emergency room. The procedure lasts for approximately one hour, starting with induction of general anesthesia, exposure of the birth canal with a size S speculum, fixation of the pore with a clamp at 11 o'clock, and evacuation of the molar tissue with suction curette number 3.

Figure 3: Hydatidiform mole tissue (600 gm) obtained from drainage and curettage procedure.

The evacuation process of the mola tissue resulted in 600 grams of tissue that was successfully evacuated (Figure 3). After the procedure, 20 drops per minute of 20 IU of oxytocin solution in 500 ml of Ringers lactate with 5% dextrose were administered. No active bleeding was found from the portio. The patient is hospitalized for up to one day after surgery to monitor the patient's condition. Furthermore, the patient is discharged with ciprofloxacin 500 mg every 12 hours, mefenamic acid 500 mg every 8 hours, and methylergometrine maleate 125 µ g every 8 hours.

DISCUSSION

We present a case of hydatidiform mole in an adolescent woman of low socioeconomic status with a first pregnancy of 16 weeks. The initial presentation of hydatidiform mole in this patient was vaginal bleeding accompanied by a uterine fundal height beyond gestational age and tenderness on physical examination. The diagnosis is confirmed by ultrasound imaging. Molar evacuation was performed by curettage and drainage followed by inpatient observation for 24 hours postoperatively before discharge in a stable state.

Demographically, the patient met several criteria for the risk factors for hydatidiform mole. Research in Iran reported risk factors for hydatidiform mole include age less than 20 years or more than 35 years, a history of hydatidiform mole or abortion in previous pregnancies, and close family relationships with husbands.[9] The same risk factors were reported in a recently published literature review.[10]

This patient met several criteria for these risk factors, especially from the age factor at which the patient was 14 years old when presented with hydatidiform mole symptoms. The patient did not meet the risk factors for a pregnancy history considering this was her first

pregnancy. In addition, there are insufficient clinical data regarding some other risk factors, such as the family relationship between the patient and her husband.

The diagnosis of this patient was carried out in accordance with established clinical guidelines. Enforcement of diagnosis hydatiform mole mainly done with ultrasound imaging. There is a difference between complete and incomplete hydatidiform mole. In a complete hydatidiform mole, a vesicular pattern can be found, which originates from enlargement of the chorionic villi. Meanwhile, incomplete hydatidiform mole is generally characterized by central cystic changes. Difference between complete and incomplete hydatidiform moles can also be done after evacuation by chromosome examination where complete moles are generally diploid while incomplete moles are generally triploid. In addition, enforcement of hydatidiform mole can also be done by examining hCG levels where increase in hCG in hydatidiform mole sufferers much higher than normal pregnancies.[1,11]

In addition, evaluation of investigations suggested in patients suspected of hydatidiform mole includes complete blood count and thyroid profile. Complete blood count is performed to identify if there is anemia in a patient related to bleeding that occurs in sufferers of hydatidiform mole.[12,13] Meanwhile, thyroid examination is performed to identify hyperthyroidism considering this is one of the disorders that can accompany hydatidiform mole.[14,15]

The diagnosis of this patient was confirmed according to theory, namely by ultrasound imaging. The finding of the vesicular pattern (Figure 1) supports the diagnosis of a complete hydatidiform mole. Other investigations, such as hCG levels and chromosome examinations, not performed because diagnosis was already established by ultrasonography and these examinations was not required for further action.

This patient also underwent complete blood count and thyroid profile investigations with abnormal results in both. Complete blood count of the patient showed mild anemia with normochromic normocytic morphology, indicating anemia due to acute bleeding. Meanwhile, examination of the thyroid profile showed high T3 and T4 levels near the upper limit, while low TSH levels indicated increased thyroxine levels independent of hypothalamic and pituitary regulation. However, history and physical examination did not reveal any clinical manifestations related to abnormal laboratory findings so that there was no indication for any specific action other than molar evacuation.

The management of molar evacuation by curettage and drainage is in accordance with the recommendations and clinical guidelines for molar management.[1,11] Evacuation by sharp curettage is not recommended because of the risk of causing uterine perforation. The thing to remember from the evacuation process is to make sure the mola tissue is completely evacuated to prevent the need for repeat action. In addition, the remaining molar tissue increases the risk of malignant spread and trophoblast malignancies.[1]

A post-treatment review showed patient characteristics consistent with a typical case of hydatidiform mole. However, the initial diagnosis of the patient is complicated by the very young age of the patient. At this age there are many complications of pregnancy that may arise in the patient, thereby increasing the differential diagnosis from the initial presentation of a patient with vaginal bleeding at 16 weeks of gestation. In addition, poor antenatal care and low levels of education complicate history-taking investigations in patients. The management of patients can be carried out in accordance with applicable science.

There are several limitations in presenting this case. First of all, checking hCG levels was not performed for cost-benefit reason and limited laboratory capacity. Checking hCG levels is not an absolute requirement for handling hydatidiform mole so that the clinical decision is taken not to wait for the results of the examination. In addition, post-operative observation in these patients was limited to 24-hour observations made in the hospital due to patient being loss to follow up. Long-term observation, up to several weeks or months after surgery, is required to detect trophoblast malignancies that can occur in 15% of patients with complete hydatidiform mole.

CONCLUSION

We present a case report of hydatidiform mole in a primigravida pregnant woman aged 16 weeks gestation. The initial presentation of a typical patient with hydatidiform mole is vaginal bleeding with the diagnosis complicated by the many differential diagnoses related to the age of high-risk patients. The diagnosis is made by ultrasound imaging followed by treatment of molar evacuation by curettage and drainage. The patient was discharged in an improved and stable condition.

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