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Case Report

A cornual invasive hydatiform mole: A literature review

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Introduction

The incidence of ectopic pregnancy and molar pregnancy are respectively estimated about 20% and 1%.¹ The combination of both diseases is extremely rare^{1,2} with an estimated incidence ranging between of 0.00005% and 0.01%.³ To our knowledge, only four cases have been reported in the literature,³ and this is the first report of an invasive cornual mole.

Case report

A 40-year-old uniparous female patient, without significant medical history, presented at 7 weeks of amenorrhea with

sudden acute pain located in the left iliac fossa. She had regular menstrual cycles and used ogino knauss contraception method.

The patient was in a good general and hemodynamic status. Physical examination revealed a sensitivity of the left iliac fossa and pain on the palpation of the lateral fornix of the vagina at uterine mobilization. There was no bleeding.

A trans-vaginal ultrasound found an empty uterine cavity with two intramural posterior and fundus fibroids, measuring 3 and 4 cm, respectively. There was no uterine cavity distortion. The endometrium was homogeneous and had a 5 mm thickness. This examination revealed a heterogenous left latero-uterine mass of about 43.4 mm × 42.3 mm (Fig. 1). The mass was vascularized in Doppler color and painful at the

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Fig. 1 – Transvaginal sonography: heterogenous left latero uterine mass, which is 43.4 mm × 42.3 mm in size (arrow).

mobilization of the ultrasound probe. Both ovaries were normal. β hCG plasma level was 27,624 IU/ml.

An emergency laparoscopic surgery confirmed a 5 cm left unruptured ectopic corneal pregnancy (Fig. 2). The rest of the abdominal cavity was considered as normal. A mini-laparotomy conversion was performed (because of the high risk of bleeding) and allowed a left salpingectomy associated with a resection of the corresponding uterine horn. Extensive washing of the peritoneal cavity with saline was performed at the end of the procedure. Postoperative course was uneventful.

The macroscopic appearance of the trophoblastic product was vesicular. The microscopic examination (standard hematoxylin and eosin staining) of the surgical specimen confirmed the diagnosis of corneal hydatidiform invasive mole. Indeed, the specimen was formed by trophoblastic villi with hydropic axis containing nuclear debris and invading vessels in the thickness of the tube wall (Fig. 3a). The perivilli trophoblasts were hyperplastic and often atypical (Fig. 3b). Within these cupboards trophoblasts, there were images of

bullous dystrophy. An immuno-histochemical study revealed that trophoblastic cells did not express p57KIP2 (Fig. 3c).

One month after the surgery, the patient was asymptomatic and hCG plasma was 26,000 IU/ml but controlled β hCG level one week later revealed an increasing serum concentration of 32,685 IU/ml. At that time, a pelvic ultrasound, a CT scan and an abdominal ultra-sonography were normal. After multidisciplinary consultations, the patient was put on chemotherapy based on methotrexate. The outcome was favorable with negativity hCG plasma (monitored weekly) after 8 cycles of chemotherapy and the patient was in complete remission up to 48 months post-treatment.

Discussion

Ectopic pregnancy is most commonly located in the fallopian tube.⁴ Its incidence is estimated at 20 per 1000 pregnancies. The cornual location represents 2–4% of ectopic pregnancies.⁵ Moreover, the incidence of the molar pregnancy is estimated

Fig. 2 – Unruptured left cornual ectopic pregnancy (arrow).

Fig. 3 – Histologic feature of invasive hydatidiform mole of the fallopian tube. (a) HE staining 40×: intravascular invasion in the tubar wall by hydropic villi. (b) HE staining 40×: hydropic villi surrounded by a florid hyperplastic trophoblastic cells. (c) Negativity of the immunostain of the perivillous trophoblastic cells by the p57KIP2 antibody.

at 1 per 1000–2000 pregnancies and is mostly intrauterine.⁵ The molar ectopic pregnancy localization is extremely rare and to our knowledge, only four cases have been reported in the literature.³ Although it is difficult to estimate its impact because of the lack of systematic histological examination of specimens of salpingectomy in some developing countries,⁶ we believe that we report the first case of extra-uterine invasive mole with a cornual localization.

A history of a molar pregnancy is the main risk factor for its recurrence and this risk is estimated between 1% and 23% if the patient had two episodes of molar pregnancy.⁷ Other risk factors have been described such as a low diet in vitamin A and animal fat, maternal age below 20 years or above 40 years, a history of repeated spontaneous abortions and the blood group type A or AB.⁷ On the other hand, a history of pelvic inflammatory disease, tubal surgery or/and of medically assisted pregnancy are the main risk factors for ectopic pregnancy locations. We did not find any of these factors in our patient.

The clinical presentation of the invasive hydatidiform ectopic mole is not specific. It is similar to the non-molar

ectopic pregnancy with a higher risk of rupture. Clinical signs usually appear during the first trimester and are dominated by lateralized pelvic pain and/or vaginal bleeding. Other signs may be present including an increased uterus' height with respect to gestational age, hyperemesis gravidarum, and abnormally high levels of beta-hCG.^{2,4-6}

The transvaginal ultra-sonography shows an empty uterus. The Doppler color is helpful for the diagnosis of ectopic trophoblastic disease by showing a heterogeneous highly vascularized mass.² However, one has to keep in mind that this aspect is not specific and that the diagnosis is only histological. In fact, the histological examination of a complete hydatidiform mole (MHC) reveals very large villi with a central edema. There is a cystic transformation and a hyperplasia of the trophoblastic perivilli composed of syncytiotrophoblast, cytotrophoblast and intermediate cells with some cytonuclear atypia. These villi are poorly vascularized. Invasive mole is a molar pregnancy that is histologically similar to MHC, but it presents large villi that deeply invade the myometrium.⁸ In ectopic locations, the invasive mole is responsible for an intravascular invasion of the thickness of the tube walls by

hydropic villi.³ These criteria allowed our patient diagnosis. However, the distinction between trophoblastic diseases including hydatidiform mole and non-molar pregnancy is not always easy especially at an early term. Molecular genetics techniques have been developed to help diagnose borderline cases but the differential diagnosis between hydatidiform mole and non-molar trophoblastic tissue still remains ambiguous because both entities are diploid.^{1,9} The development of immuno-histochemistry (IHC) contributed to distinguish between the two entities in these doubtful cases. In 2011, a study concluded to the lack of expression of immuno-histochemical marker P57KIP2 by tumor cells of the MHC but this marker is expressed by non-molar trophoblast cells.⁹ In our patient, the IHC was negative with no expression of P57KIP2 in tumor cells. Invasive mole can simulate choriocarcinoma with the particular risk of lung and vaginal metastases. It differs from the latter by the presence of villi that are always absent in the choriocarcinoma.⁸ A staging including a CT scan is recommended. Following this approach, we have found no locoregional or distant metastases in our patient.

The treatment of invasive ectopic mole consists of a salpingectomy followed or not by a postoperative chemotherapy.^{3,6} After evacuation of the ectopic moles, the hCG blood level monitoring should be weekly performed until its negativity which is confirmed on three successive negative dosages. Then, a monthly monitoring for 6–12 months is performed to ensure the remission.⁷ The presence of an increase of at least 10% of the hCG blood levels on at least three successive weekly dosages over a period of 2 weeks (days 1, 7 and 14) allows the diagnosis of a trophoblastic gestational tumor (TTG).⁷ The management of these tumors is based on systemic chemotherapy with, in first line, methotrexate (or actinomycin D in case of intolerance or contraindication).^{7,10} Our patient has not shown up for a month. Therefore during that period of time, the hCG level has increased, and we had no idea about the hCG level before that first control. These led us to indicate chemotherapy on the basis of two increasing values. A methotrexate-based chemotherapy was effective. This was confirmed by negative hCG levels after 8 weeks. The patient, who is still followed, is in complete remission up to 48 months post-chemotherapy.

Conclusion

The ectopic mole remains a rare entity. We report an exceptional case of cornual molar pregnancy. The monthly hCG blood levels monitoring until normalization of the rates for at least 6 consecutive months is compulsory in order to detect any early gestational trophoblastic tumor.

Conflicts of interest

The authors have none to declare

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