American Journal of Obstetrics & Gynecological Research

Case Report

Gestational Choriocarcinoma of the Uterus with Concurrent Metastasis and an Atraumatic Rupture of the Spleen: A Rare Association and First Description in Africa

Olivier Mukuku[1], Hugues Ilunga Ngwej[2], Joseph Bulenda Nsambi[2], Roger Munan[2], Michel Ntetani Aloni[3], Xavier Kinenkinda[2] and Justin Kizonde[2]*

[1]*Department of Research, High School for Medical Techniques of Lubumbashi, Democratic Republic of Congo*

[2]*Department of Gynecology and Obstetrics, Faculty of Medicine, University of Lubumbashi, Democratic Republic of Congo*

Abstract

A gestational choriocarcinoma of the uterus with concurrent metastasis and an atraumatic rupture of the spleen is rare disease and has been rarely reported in African women. We report here the case of a thirty-eight-year-old women who was referred to our hospital with a previous medical history of hydatidiform mole. Ultrasonography (US) revealed a non-pregnant uterus of normal size and a left adnexal pseudo-occupation of oval shape hypoechoic with a heterogeneous structure. Laparotomy revealed an hemoperitoneum, splenic rupture and the presence of a fleshy mass in the left iliac fossa. Histopathology of uterus revealed choriocarcinoma and those of the spleen and the fleshy mass revealed metastatic choriocarcinoma. Her Human Chorionic Gonadotropin (HCG) level was elevated. Our patient presented gestational choriocarcinoma of the uterus with concurrent metastasis and an atraumatic rupture of the spleen. This is a rare complication described in woman living in sub-Saharan Africa. Genetic and molecular investigations play an important role in diagnosis but were not available in poor resources settings in developing countries such as the Democratic Republic of Congo.

Keywords: Choriocarcinoma; Woman; Hydatidiform mole; Human chorionic gonadotropin; Metastasis; Lubumbashi; Democratic republic of congo; Africa

Introduction

Choriocarcinoma is a highly malignant tumor of trophoblastic cells characterized by a proliferation of cytotrophoblasts and syncytiotrophoblasts and extensive angio-invasion and by a propensity to metastasize to various sites including lungs, vagina, brain, liver, kidney, and gastrointestinal tract, in descending order of frequency [1]. Gestational choriocarcinoma is a rare complication of pregnancy. Gestational choriocarcinomas have been observed in the ovaries but rarely the uterus [2]. Gestational choriocarcinoma of the uterus with concurrent metastasis and an atraumatic rupture of the spleen have been rarely reported in the medical literature [3]. This paper reports a case of a gestational choriocarcinoma of the uterus associated with an atraumatic rupture of the spleen in a 38-year-old woman who presented this malignant tumor diagnosed in the University Hospital of Lubumbashi, Democratic Republic of Congo.

Citation: Mukuku O, Ngwej HI, Nsambi JB, Munan R, Aloni MN, Xavier K, et al. Gestational Choriocarcinoma of the Uterus with Concurrent Metastasis and an Atraumatic Rupture of the Spleen: A Rare Association and First Description in Africa. Am J Obstetr Gynecol Res. 2019; 1(1): 1002.

Publisher Name: Medtext Publications LLC

Manuscript compiled: Dec 24th, 2019

***Corresponding author:** Olivier Mukuku, Department of Research, High School for Medical Techniques of Lubumbashi, Democratic Republic of Congo, E-mail: oliviermukuku@yahoo.fr

Case Presentation

A thirty-eight-year-old gravida 4 para 5 women, was admitted on the eight weeks post-menses for diffuse abdominal pain for 24 hours. Her previous medical history revealed a hydatidiform mole (when she was 37 years old) and follow-up was marked by the negativity of the beta-hCG assay after curettage associated with administration of methotrexate (100 mg/week for 3 weeks). During the initial exam, the patient reported physical asthenia. The abdominal palpation revealed a diffuse high sensitivity and a sloping dullness at the percussion. Per vaginal examination was normal. Rapid immunological pregnancy test was positive. With these findings, she was suspected to have an ectopic pregnancy. Ultrasonography (US) revealed a non-pregnant uterus of normal size (56 mm × 47 mm) with a thickened endometrium, a left adnexal pseudo-occupation of oval shape hypoechoic with a heterogeneous structure (35 mm × 44 mm). An effusion of average abundance that surrounds the uterus and upper abdomen with normal appearance was noted. An urgently exploratory laparotomy was conducted and revealed a hemoperitoneum, a normal uterus and both adnexa were normal (Figure 1). Furthermore, splenic rupture and the presence of a fleshy mass in the left iliac fossa were noted (Figure 2). An endometrial biopsy and splenectomy were performed. Histopathology of uterus revealed choriocarcinoma and those of the spleen and the fleshy mass revealed metastatic choriocarcinoma. Histological data of the spleen show a spleen whose white pulp is hyperplastic with tumor invasion made of undoubtedly malignant trophoblastic tissue without placental villi. Chest X-ray was normal. Her Human Chorionic Gonadotropin (HCG) level was elevated. Weekly biological monitoring by the beta-HCG urine assay was initiated and showed a perfect regression curve as soon as treatment

was initiated. A semi-quantitative method previously described by Nsambi et al. [4] (Figure 3) have been used. The patient was given 7 cycles postoperative chemotherapy with methotrexate (100 mg/week) and folic acid (5 mg/day). This treatment was administered for 7 weeks and used the American methotrexate protocol which suggests giving methotrexate once a week). Methotrexate has been used because it was the only antimitotic available on the market in Lubumbashi. She was on weekly follow-up with HCG titer, which gradually fell. After improving her condition, the patient was lost to follow-up and abandoned the treatment. After 2 months, she presented back to us with a coma and was admitted in the Intensive care unit. Death occurred 24 hours after her admission and was due to multiple organ failure.

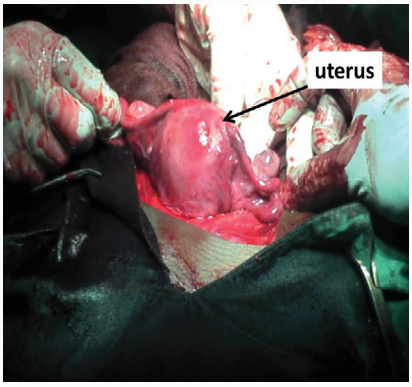

Figure 1: Exploratory laparotomy was conducted and revealed a hemoperitoneum, a normal uterus and both adnexa were normal.

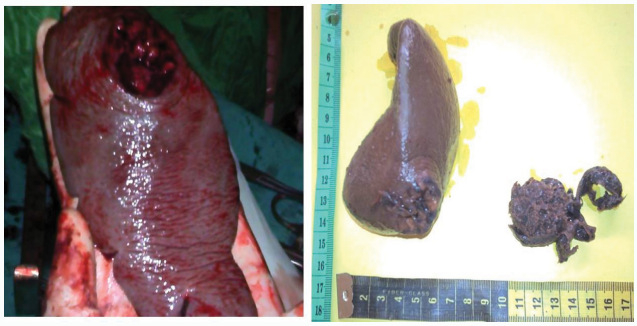

Figure 2: Splenic rupture and the presence of a fleshy mass in the left iliac fossa were noted.

Figure 3: HCG Urinary Assay.

Discussion

Choriocarcinoma is a malignant gestational trophoblastic disease which it usually develops in the aftermath of a pregnancy. The medical literature showed that this choriocarcinoma occurred after a hydatidiform mole (50% of cases), abortion (25% of cases), normal pregnancy (22.5% of cases) or rarely after ectopic pregnancy (2.5% of cases) [5,6]. The incidence of hydatidiform mole varies worldwide from 1 in Europe and North America, to 3 in every 1500 gestations in the Far East and Eastern South of Asia [7,8]. In sub-Saharan Africa, this choriocarcinoma with concurrent metastasis in the spleen was not previously noted and this observation is the first description of a gestational choriocarcinoma of the uterus with concurrent metastasis and an atraumatic rupture of the spleen in African population. It is the first description of choriocarcinoma with concurrent metastasis in the spleen in Sub-Saharan countries after a previous medical history of hydatidiform mole. The pathogenesis of choriocarcinoma in uterus may be explained by several hypotheses such as the transport of chorionic cells from a previous pregnancy that undergo malignant transformations after a dormant period [3]. In this case, the age of the patients close to 40 years, the woman had medical history of molar abortion with preservation of the uterus, these situations were found to be risk factors of choriocarcinoma [9]. The diagnosis of choriocarcinoma is based on the curettage specimen. In the present case, histopathological analysis was compatible with choriocarcinoma as described in the literature, despite that the diagnosis was made in context of low resources, especially echographic associated with a proportioning of plasmatic β-hCG or prolans urinary. Immunohistochemistry analysis is useful in differential diagnosis of choriocarcinoma. Strong diffuse β-hCG immunoreactivity confirms the diagnosis of choriocarcinoma [10]. Metastasis of choriocarcinoma usually occur through blood, preferably reaching the lung (80% of cases), vagina (30% of cases), pelvis (20% of cases) [1]. Splenic localization is rare. To the best of our knowledge, only five cases were found [6,11-14]. Splenic rupture due to choriocarcinoma of the spleen is also rarely described in the medical literature. Less than 10 cases could be found with the use of available computer-assisted medical literature search programs [6,11-14]. The treatment of choriocarcinoma is surgical excision, if possible, followed by polychemotherapy (various chemotherapeutic agents, for example, methotrexate, cisplatin, mitomycin C, fluorouracil, futrafur) [15]. Recently, methotrexate has subsequently revolutionized the treatment of gestational trophoblastic neoplasia and ectopic pregnancy [16]. This drug was favored for the treatment in this case. In the present case, chemotherapy was not given regularly according to established standard treatment guidelines. The main reasons for this are resource deficiencies, the unavailability and high cost of some chemotherapeutic agents in Democratic Republic of Congo. This situation contributes to lack of treatment adherence and patients being lost to follow-up in sub-Saharan African countries [17].

Conclusion

A gestational choriocarcinoma of the uterus with concurrent metastasis and an atraumatic rupture of the spleen is rarely described in sub-Saharan countries. An implementation of molecular and genetic laboratories is advocacy in tertiary institutions of the Democratic Republic of Congo to elucidate cases of gestational choriocarcinomas for a contribution to knowledge and progress of science in Tropical environment.

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