CASE STUDY OF CHORIOCARCINOMA FOLLOWING A TERM PREGNANCY

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ABSTRACT

Choriocarcinoma is the most aggressive form of gestational trophoblastic disease. Post-partum choriocarcinoma is an infrequent event with poor prognosis. A 25 years-old woman presented with vaginal bleeding and then hemoptysis after a term delivery. Laboratory evaluation showed serum B-HCG level: 13,420mIU/ml and chest x-ray showed multiple metastases to the lung. Biopsy report of curettage showed choriocarcinoma. After diagnosis, Etoposide, Methotrexate, Dactinomycin, Cyclophosphamide & Vinristine (EMACO) therapy was started. At present, the patient has been 3 serial negative B-HCG levels.

Key words: Choriocarcinoma, Term pregnancy, BHCG level.

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Introduction

Choriocarcinoma is a trophoblastic tumor belonging to the malignant end of the spectrum in gestational trophoblastic disease (GTD). The characteristic features are identification of intimately-related syncytiotrophoblasts and cytotrophoblasts without formation of definite placental-type villi. The incidence of choriocarcinoma is estimated to be 0.133 per 100000 woman-years(1). It usually occurs after a molar pregnancy, but may develop after a normal pregnancy.

Metastases are more common in non-molar pregnancies. It has a propensity to metastasize to different sites, especially the lungs and vagina. Postpartum choriocarcinoma presents mainly as prolonged vaginal bleeding. The rare occurrence of choriocarcinoma after a normal pregnancy means that its diagnosis is easily missed. The most important laboratory study for diagnosis of GTN is serum quantitative BHCG. Patients diagnosed with choriocarcinoma should undergo a systemic search for metastases. Malignant GTN following a term pregnancy is a criteria for high-risk metastatic GTN. The current case of choriocarcinoma presented after a term delivery in a woman who had undergone chemotherapy.

Case report

A 25 year-old Iranian woman, gravida 3 with a history of two term deliveries and one first trimester spontaneous abortion, was brought to the emergency room of the gynecology and obstetrics department with severe vaginal bleeding. The patient had experienced a term delivery by cesarean section 43 days previously. She reported an uneventful postpartum period for about 36 days, but presented with vaginal bleeding after 20 days amenorrhea. She had developed severe vaginal bleeding for 12 hours prior to arriving at the emergency room.

Upon examination, the patient was not pale and her vital signs were stable. Abdominal and lung examination showed no abnormal findings. A pelvic
examination revealed that the vagina, cervix, and adnexa were normal and the size of uterus was normal for eight weeks post-partum. Laboratory evaluation showed 10 gr/dl Hgb and a serum BHCG level of 13420 mIU/ml. A recheck of the BHCG showed a level of 12283 mIU/ml. Other tests (LFT and TFT) were within normal range.

Transvaginal sonography showed a 47 × 35 × 27 mm heteroechoic mass with cystic changes and an indistinct border with endometrium (Fig. 1). Doppler sonography of the mass showed increased peripheral flow and a center with low resistance indicating degenerated myoma or GTN (Fig. 1). The endometrial thickness was 8 mm, adnexa was normal, and no free fluid was detected in the pelvic cavity. The chest x-ray and abdominal sonography were normal.

A D&C was performed and a biopsy showed sheets of atypical intermediate trophoblasts and syncytiotrophoblasts with foci of necrosis and villi ghost (Fig. 2). Before documentation by histologic examination and onset of treatment at one week after initial admission, she presented with hemoptysis. A chest x-ray showed multiple metastases to the lung. Our diagnosis was stage III choriocarcinoma with a WHO score of 7 (high risk) and polychemotherapy (EMA-CO regimen) was planned. At present (3 months after beginning treatment), the patient has had 3 serial negative B-HCG levels.

Discussion

Choriocarcinoma is a highly malignant tumor arising from trophoblastic cells. It tends to be invasive and metastasize early and widely throughout both the venous and lymphatic systems. Choriocarcinomas can follow any type of pregnancy, but usually arises from complete moles. It is uncommon following a normal pregnancy.

The majority of cases present with vaginal bleeding. Our case presented with late postpartum hemorrhage. Suspicion of choriocarcinoma arose from clinical presentation, sonographic findings, and serum BHCG level. The diagnosis confirmed by histologic findings of sheets of anaplastic cytotrophoblasts and syncytiotrophoblasts without chorionic villi [2].

Trophoblasts that are intermediate in appearance can sometimes be observed [2]. Because of its low incidence after a normal pregnancy, timely diagnosis of choriocarcinoma is usually missed. Death may result from a delay in diagnosis, so physicians should be aware of the possibility of choriocarcinoma in women who experience postpartum hemorrhage. Diagnosis of this patient was based on clinical findings, serum BHCG level, sonography, and histologic study of a placental specimen. Histologic examination in this case revealed sheets of atypical intermediate trophoblasts and syncytiotrophoblasts.

There have been concerns that choriocarcinoma occurring after a live birth carries a worse prognosis than after a miscarriage [3,4,5]. The prognosis is usually poor because of the increased tumor size, including the uterus (>5 cm), pretreatment BHCG values of >30000 IU/ml, changes in the host immune response, and delayed diagnosis (6 months) [2]. Nugent et al. [6] found that outcomes of postpartum choriocarcinoma are related to the site or sites of the disease and not to the antecedent pregnancy.

Staging of GTN is as follows:

Stage I. Confinned to the uterus
Stage II. Limited to the genital tract
Stage III. Lung metastases
Stage IV. Other metastases

The three groups are non-metastatic, metastatic-low risk, and metastatic-high risk.

Although choriocarcinoma has an aggressive nature, its cure rate is very high because it is
extremely sensitive to chemotherapeutic agents. Low-risk GTN cases are at FIGO stages I, II and III with WHO scores of less than 6. Such cases offer a good prognosis with monotherapy. High-risk GTN cases are those at FIGO stages I, II, or III with a WHO score of 7 or greater and at FIGO stage IV. These cases require polychemotherapy. The present case fell into the high-risk category with a WHO score of 7.

Iloki et al. reported a case of choriocarcinoma at two months after a normal full-term birth that progressed rapidly despite chemotherapy, with death occurring 7 months after confirmed diagnosis with multiple metastases. Bratila et al. reported a case of choriocarcinoma after a term delivery in a patient who presented with severe vaginal bleeding 4 months postpartum. At the first admission, a vaginal mass was found and the biopsy showed necrosis and inflammation. Upon readmission for abundant vaginal bleeding and fever, the BHCG level was 31030 and Hgb was 2.9 gr/dl. Sonography showed an intracavitary uterine tumoral mass with myometrial invasion into the uterine serosa but no distant metastases. A total hysterectomy with bilateral salpingo-oophorectomy was performed and four courses of polychemotherapy were initiated postoperatively. Histopathological examination revealed uterine choriocarcinoma with ovarian metastases. This report indicates a missed diagnosis at the first admission.

Other case reports exist of choriocarcinoma presenting after a normal viable pregnancy. This is often an incidental finding from placental histology after an uncomplicated delivery. Additional case reports of choriocarcinoma have presented with metastases. Bircher et al. reported a case of metastatic choriocarcinoma that presented with repeated vaginal bleeding during the second trimester and then respiratory symptoms caused by lung metastases.

Ganapathi et al. reported a case of placental choriocarcinoma without metastases in a full-term pregnancy. Routine examination of the placenta showed a nodule that was microscopically composed of highly atypical cytotrophoblastic and syncytiotrophoblastic cells. She was followed with monthly BHCG levels that became negative. They reported that the incidence of placental choriocarcinoma could actually be higher than expected, as placental examination after a normal spontaneous delivery is not routinely performed at most institutions.

In our case, placental examination was not performed.

Eriksson et al. reported a case of metastatic choriocarcinoma during normal pregnancy that presented as a thyroid tumor and Yuruyen et al. reported a case of spontaneous splenic rupture after a pregnancy induced by in vitro fertilization. These studies show that the choriocarcinoma could have an unusual presentation.

Conclusion

Physicians should be aware of the possibility of choriocarcinoma after normal delivery. The most common clinical presentation is vaginal bleeding, but other symptoms could present. Early suspicion, clinical and sonographic findings, BHCG level, and histology could aid in a timely diagnosis. Early detection and treatment improves the outcome.

References