Life-saving hysterectomy in choriocarcinoma: presentation of two cases

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Summary

Background: Choriocarcinoma is a malignant tumor of the placenta. Life-saving hysterectomy was performed in two cases with choriocarcinoma who had profuse vaginal bleeding. *Case 1:* A 25-year-old, gravida 3, para 1, woman was referred to our emergency clinic with the diagnosis of choriocarcinoma and massive vaginal bleeding. She had been transfused seven units of blood at the hospital where she was first admitted. Pelvic examination demonstrated heavy vaginal bleeding and a uterus equivalent to the size of 14 weeks of gestation. Her β-hCG level was 560,000 mIU/ml. Despite four units of blood transfusion, she had a pulse rate of 130/min, arterial pressure of 90/60 mm/Hg and HCT of 19%. An emergency hysterectomy with vertical incision was performed. *Case 2:* A 54-year-old, gravida 3, para 3, woman was referred to our clinic with heavy bleeding with the diagnosis of choriocarcinoma. She was scanned to look for possible metastases and pulmonary metastasis was detected. Chemotherapy was planned but as sudden vaginal bleeding began she was referred to the Gynecology Department. At pelvic examination a soft uterus the size of 20 weeks of gestation was palpated. The β-hCG level was 554,700 mIU/ml. Due to hemodynamic instability and continuous vaginal bleeding an emergency hysterectomy was performed. *Conclusion:* Although chemotherapy is the cornerstone of treatment for choriocarcinoma, optimal treatment results may depend on the addition of surgery in selected circumstances. Hysterectomy is indicated in cases with life-threatening hemorrhage.

Key words: Hysterectomy; Choriocarcinoma; Massive hemorrhage.

Introduction

Choriocarcinoma is a malignant and aggressive tumor of the placenta. It belongs at the far end of the spectrum of gestational trophoblastic neoplasias (GTN) [1]. The cornerstone of treatment is chemotherapy but in cases when massive hemorrhage occurs, life-saving hysterectomy should be performed [2, 3]. We present two cases which were managed with hysterectomy due to massive hemorrhage.

Case Reports

Case 1: A 25-year-old gravida 3, para 1 woman was referred to our emergency clinic with the diagnosis of choriocarcinoma and massive vaginal bleeding. In her obstetrics history there had been pregnancy termination because of an anembryonic pregnancy six months before. She had been transfused seven units of blood at the hospital where she was first admitted. Pelvic examination revealed heavy vaginal bleeding and a uterus the size of 14 weeks of gestation. Human clorionic gonadotropin (hCG) level was 560,000 mIU/ml. Despite four units of blood transfusion, she had a pulse rate of 130/min, arterial pressure of 90/60 mm/Hg and HCT of 19%. An emergency hysterectomy with vertical incision was performed. Computed tomography (CT) scan of the abdomen, thorax and the brain was within normal limits. The patient was discharged from the hospital on the fourth postoperative day and referred to the Oncology Department because of high-risk metastatic GTN.

Case 2: A 54-year-old gravida 3, para 3, woman was referred to our clinic with heavy bleeding with the diagnosis of choriocarcinoma. She was scanned to look for possible metastases and pulmonary metastasis was detected. A chemotherapy regimen consisting of EMACO (etoposide, methotrexate, actinomycin, cyclophosphamide, and vincristine) was planned but as sudden vaginal bleeding began she was referred to the Gynecology Department. At pelvic examination a soft uterus the size of 20 weeks of gestation was palpated and the hCG level was 554,700 mIU/ml. Due to hemodynamic instability (HCT 17%, arterial pressure of 90/50 mmHg, pulse rate 130/min) and continuous vaginal bleeding an emergency hysterectomy with bilateral salpingo-oophorectomy was performed. After recovery the sixth postoperative day, she was referred to the Oncology Department for chemotherapy.

Discussion

Choriocarcinoma is a malignant and aggressive cancer of the placenta. The frequency is one in 30,000 pregnancies in the west and one in 11,000 in oriental communities [4]. It is characterized by early hematogenous spread to the lungs. It belongs at the far end of the spectrum of gestational trophoblastic diseases. Choriocarcinoma is a highly chemosensitive tumor. The cure rate, even for metastatic choriocarcinoma, is around 90-95% [5, 6]. The chemotherapy regimen includes EMACO. Although chemotherapy is the cornerstone of treatment [7, 8], the addition of surgery and irradiation in selected cases may be necessary for optimal treatment.

Hysterectomy may play a primary role in the management of non-metastatic or low-risk metastatic gestational trophoblastic disease. Hysterectomy provides several advantages in the management of chorocarcinoma. It may

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reduce the side-effects and dosage of chemotherapy. Not only does it reduce the complications of chemotherapy, but it also increases the probability of cure. Hysterectomy makes it possible to resect the residual tumor or isolated metastasis completely. It is also essential to perform surgery in the management of chemo-resistant tumors [9]. Hysterectomy can be offered to patients over 40 years of age without fertility desire. Surgery is also indicated in cases of life-threatening hemorrhage. Severe uncontrollable vaginal or intraabdominal bleeding from gestational trophoblastic disease may occasionally necessitate hysterectomy as an emergency procedure [10].

Pisal *et al.* [10] evaluated the value of hysterectomy in the management of gestational neoplastic disease. They performed hysterectomy in 40 patients out of 5,976 patients with the diagnosis of GTN between 1986-2000. Indications for hysterectomy included uncontrollable vaginal or intra-abdominal bleeding in 12 cases, and localized chemo-resistant disease or placental site trophoblastic tumor for the remaining patients. Also Flam [2] reported that in 92 patients treated for GTN at one institution, ten patients (11%) were subjected to invasive surgery, for the most part because of life threatening hemorrhage. In a recent paper, Tse *et al.* [3] reported their experience on 17 patients with the diagnosis of GTN attending their center with profuse bleeding over 20 years. Eleven patients had total abdominal hysterectomy with or without bilateral salpingo-oophorectomy (TAH ± BSO), two had arterial ligation, three had embolization, and one had suturing of a vaginal defect due to a metastatic nodule.

In our first case, sudden heavy vaginal bleeding occurred that could not be controlled with massive transfusion and tightly placed vaginal tampons. In her obstetrics history there had been pregnancy termination because of an anembryonic pregnancy six months before. She had one healthy child so a hysterectomy was more accepted by the patient.

Even though our second case was 54 years old she was still menstruating with an irregular pattern. Although a demonstrable pregnancy was not detected massive vaginal bleeding started following a period of two months of amenorrhea. Hysterectomy for choriocarcinoma would be a difficult procedure. Involvement of the adjacent visceral organs and blood vessels, presence of arteriovenous malformations and a compromised hemodynamic status due to severe blood loss could complicate the procedure. Therefore the optimal situation providing experienced surgeons and anesthetists, and postoperative intensive care units should be mandatory. As mentioned above hysterectomy of the second patient could be performed with great difficulty due to a very large uterus (size of 20 weeks of gestation), widespread adhesions and obesity of the patient. In the postoperative period she was followed in the intensive care unit.

In cases over 40 years of age chemotherapy may be tried first to control the vaginal bleeding if possible. It reduces the vascularity and makes the surgery easier [11]. It should be kept in mind that severe vaginal bleeding may also occur during the first course of chemotherapy.

There are some other life-saving operations performed for choriocarcinoma [12]. Emergency laparotomy and resection of a bleeding tumor may be necessary in gastrointestinal bleeding or bleeding from liver or splenic metastases. Craniotomy may be required to relieve rising intracranial pressure due to brain metastasis or hemorrhage.

In conclusion, although the primary therapy of choriocarcinoma is chemotherapy and the cure rate, even for metastatic choriocarcinoma, is very high, hysterectomy should be applied in life-threatening situations such as profuse vaginal bleeding compromising the patient's hemodynamic status.

References

[1] Chao A., Lin C.T., Chang T.C., Hsueh S., Lai C.H.: "Choriocarcinoma with diffuse intra-abdominal abscess and disseminated intravascular coagulation". *J. Reprod. Med.*, 2002, *47,* 689.

[2] Flam F.: "Emergency surgery in getstational trophoblastic tumours". *Eur. J. Obstet. Gynecol. Reprod. Biol.,* 1994, *55,* 183.

[3] Tse K.Y., Chan K.K., Tam K.F., Ngan H.Y.: "20-year experience of managing profuse bleeding in gestational trophoblastic disease". *J. Reprod. Med.*, 2007, *52,* 397.

[4] Grudzinskas J.G.: "Miscarriage, ectopic pregnancy and trophoblastic disease". In: Edmonds D.K. (ed.). Dewhurst's Textbook of Obstetrics and Gynaecology for Postgraduates, 6th edition, Oxford: Blackwell Science 1999, 75.

[5] Tomoda Y., Arii Y., Kaseki S., Asai Y., Gotoh S., Suzuki T. *et al.*: "Surgical indications in pulmonary metastasis of choriocarcinoma". *Cancer,* 1980, *46,* 2723.

[6] Ishizuka T., Tomoda Y., Kaseki S., Goyo S., Hara T., Kobayashi T. *et al.*: "Intracranial metastasis of choriocarcinoma. A clinicopathologic study". *Cancer,* 1983, *52,* 1896.

[7] Bower M., Newlands E.S., Holden L., Short D., Brock C., Rustin G.J. *et al.*: "EMA/CO for high-risk gestational trophoblastic tumors: results from a cohort of 272 patients". *J. Clin. Oncol.*, 1997, *15,* 2636.

[8] Hancock B.W.: "Differences in management and treatment: a critical appraisal". In: Hancock B.W., Newlands E.S., Berkowitz R.S. (eds.). Gestational Trophoblastic Disease. London, Chapman and Hall, 1997, 211.

[9] Lehman E., Gershenson D.M., Burke T.W., Leveback C., Silva E.G., Morris M.: "Salvage surgery for chemorefractory gestational trophoblastic disease". *J. Clin. Oncol.,* 1994, *12,* 2737.

[10] Pisal N., North C., Tidy J., Hancock B.: "Role of hysterectomy in management of gestational trophoblastic disease". *Gynecol. Oncol.*, 2002, *87,* 190.

[11] Millar D.R.: "Role of surgery in gestational trophoblastic disease". In: Hancock B.W., Newlands E.S., Berkowitz R.S. (eds.). Gestational Trophoblastic Disease. London, Chapman & Hall, 1997, 127.

[12] Ngan H.Y.S., Chan K.K.L., Tam K.F.: "Gestational trophoblastic disease". *Curr. Obstet. Gynaecol.*, 2006, *16,* 93.

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