CASE REPORT

Role of hysterectomy in chemoresistant gestational trophoblastic neoplasia

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INTRODUCTION

Gestational trophoblastic neoplasia (GTN) is a disease which results from abnormal proliferation of trophoblastic tissue. It is a rare and aggressive gynaecologic cancer that affects women of child-bearing age. It may follow a hydatidiform mole or a nonmolar pregnancy with persistent elevation of quantitative marker beta human chorionic gonadotrophin (Beta HCG). With appropriate management and effective chemotherapy, an overall remission rate greater than 90% can be achieved even in the presence of metastatic disease.[1] This case study highlights a 21-year-old patient who had chemoresistant GTN with pulmonary metastasis who achieved complete remission after salvage laparoscopic hysterectomy and consolidative chemotherapy.

CASE DESCRIPTION

A 21-year-old female presented with molar pregnancy during her second pregnancy in October 2011. She was diagnosed with GTN as a result of persistent elevation of Beta HCG > 200,000 mIU/ml after evacuation of molar pregnancy. Her initial FIGO prognostic score was 6. She was started on single agent chemotherapy upon diagnosis in view of low risk stratification. She progressed through various active chemotherapy regimens rapidly which was clinically inconsistent with her low risk stratification that was derived from this prognostic scoring system. She has been heavily treated from single agent chemotherapy to combination chemotherapy. Her chemotherapy regimens initially include methotrexate (first line), methotrexate/actinomycin D (second line), EMA-methotrexate/actinomycin D/etoposide (third line). Her Beta HCG was raised despite all these chemotherapies except for a short-lived response during second line methotrexate/actinomycin D for less than a month. After third line chemotherapy regimen, she defaulted follow up and presented back 4 months later with per vaginal bleeding and Beta HCG 175,734 mIU/ml. Second suction and curettage was performed. Histopathology report showed trophoblastic epithelium and necrotic tissue with absence of chorionic villi and trophoblastic cell. During reassessment workup, chest x ray showed pulmonary nodules and computed tomography of thorax, abdomen, pelvic (CT TAP) showed uterine recurrence with bilateral lung metastasis. She was then started on fourth line combination chemotherapy regimen, EMA EP-cisplatin/etoposide plus methotrexate/actinomycin D/etoposide. However her Beta HCG level continued to rise. She was subsequently challenged with PVB (cisplatin/vinblastine/bleomycin) and carboplatin/paclitaxel without any meaningful response.

Due to chemoresistant nature of the tumour, laparoscopic hysterectomy was pursued. The rationale of this surgical intervention was based on her CT that showed response from the lung lesions but persistent uterine mass. After laparoscopic hysterectomy, patient recovered well with immediate resolution of Beta HCG level. Further consolidative chemotherapy with single agent ifosfamide was given. Radiological reassessment post consolidative chemotherapy showed complete resolution of all lesions. Close serial Beta HCG quantitative measurement remained < 2 mIU/ml for the past 3 years.

DISCUSSION

From the case, we observed a complete remission of metastatic chemoresistant GTN after laparoscopic hysterectomy with consolidative chemotherapy. Clark et al. reported that 25 of 33 women (76%) with chemoresistant GTN achieved complete remission with hysterectomy.[2] Although comparison between metastatic and non-metastatic groups was not made in the cohort, it proposed the role of hysterectomy in chemoresistant disease. Another retrospective study concluded that surgical procedures for chemoresistant disease including hysterectomy is pivotal in the management of chemoresistant GTN.[3] An additional benefit of surgical treatment encompasses reduction of tumour mass with subsequent decrement of the chemotherapy dose and duration. A retrospective study of a single center experience evaluating the role of hysterectomy in GTN concluded that hysterectomy is safe and effective in the treatment of GTN with unfavourable response to chemotherapy. There was no mortality or major operative morbidity.[4] Of late, a study to evaluate the indication and outcome of hysterectomy in patients with GTN based on Dutch National Database had shown after hysterectomy, complete remission was achieved in 66.2% of patients with localized disease and 15.8% of patients with metastatic disease. This study concluded that chemoresistant GTN may benefit from additional hysterectomy especially when the disease is localised. For metastatic GTN, the benefit of hysterectomy lies in the removal of chemoresistant tumour foci.[5] Essentially, this case report has highlighted the principle

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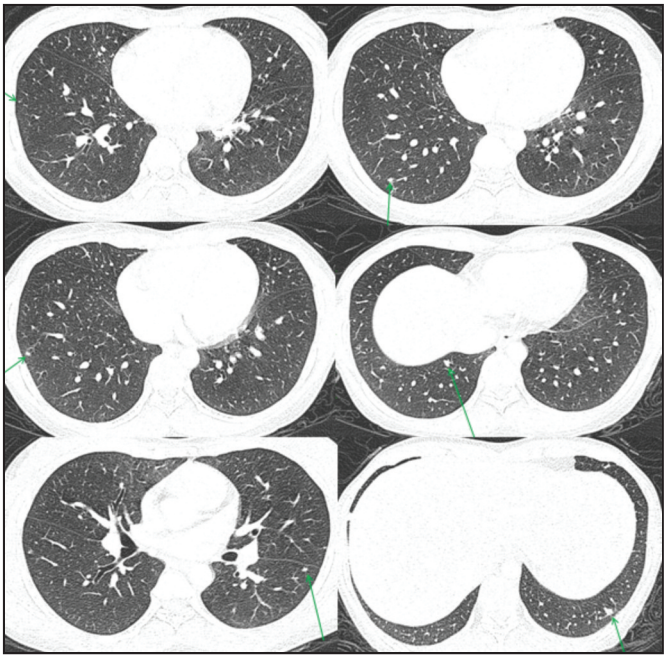
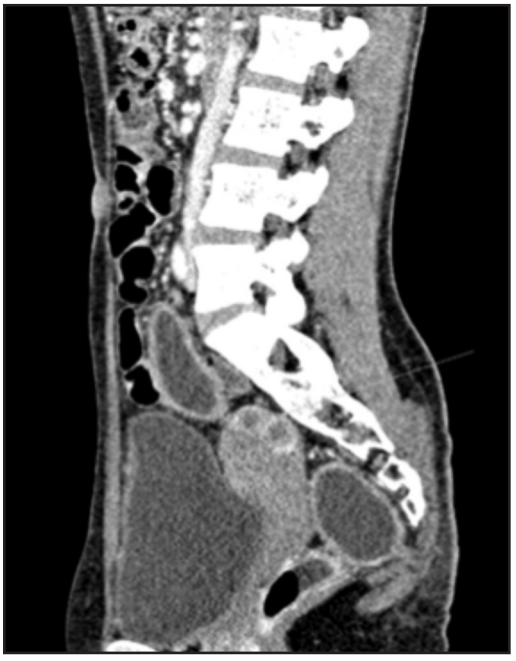
	Chemotherapy Regimens	Dates	Duration
1	Methotrexate	17/01/12 to 15/03/12	2 months
2	Methotrexate/actinomycin D	19/03/12 to 25/05/12	2 months
3	EMA-methotrexate/actinomycin D/etoposide	03/07/12 to 31/08/12	2 months
4	EMA EP-cisplatin/etoposide + methotrexate/actinomycin D/etoposide	07/01/13 to 03/05/13	4 months
5	PVB-cisplatin/vinblastine /bleomycin	29/05/13 to 24/06/13	1 month
6	Carboplatin/paclitaxel	15/07/13 to 24/09/13	2 months

Fig. 1: Summary of chemotherapy regimens used.



Photograph 1



Photograph 2

Photograph 1: Axial thin-section (1.0mm) CT scan shows irregular subcentimeter lung nodules involving both lobes (shown in arrows). These nodules were no longer seen on the follow up scan after 6th line chemotherapy but uterine mass was persistent (Photograph 2) despite radiological remission in the lung. Therefore laparoscopic hysterectomy was pursued.

of multidisciplinary and multimodality treatments are crucial in treatment of malignant GTN especially in patients with chemoresistant disease.

CONCLUSIONS

While GTN is a chemosensitive tumour, this case study underscores the importance of surgical hysterectomy which is potentially curative in the management of metastatic GTN that has failed multiple lines of chemotherapy with chemoresistant foci.

REFERENCES

1. Lurain JR. Gestational trophoblastic disease I: epidemiology, pathology, clinical presentation and diagnosis of gestational trophoblastic disease, and management of hydatidiform mole. Am J Obstet Gynecol. 2010, 203(6), 531-539.
2. R. M. Clark, N. S. Nevadunsky, S. Ghosh, D.P. Goldstein, R.S. Berkowitz. The evolving role of hysterectomy in gestational trophoblastic neoplasia at the New England Trophoblastic Disease Center, Journal of Reproductive Medicine for the Obstetrician and Gynecologist. 2010, 55(5-6), 194-198.
3. Eoh K. J, Chung Y. S, Yim G.W, Nam E. J, Kim S. H, Kim S. W et al. Role of surgical therapy in the management of gestational trophoblastic neoplasia. Obstetrics & Gynecology Science. 2015, 58(4), 277–283.
4. N. G. Kulhan, M. Kulhan, U. A. Nayki, C. Nayki, N. Ata, P. Ulug et al. The role of hysterectomy in the treatment of gestational trophoblastic neoplasms: a single center experience. Archives of Medical Science - Civilisation Diseases. 2017, 2, e37-40.
5. Y. K. Eysbouts, L. F. A. G. Massuger, J. IntHout, C. A. R. Lok, F. C. G. J. Sweep, P. B. Ottevanger. The added value of hysterectomy in the management of gestational trophoblastic neoplasia. Gynecologic Oncology. 2017.