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Gestational Trophoblastic Choriocarcinoma with Lung Metastasis: A Case Report

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ABSTRACT

Background: The choriocarcinomais rare highly aggressive malignant tumor of gestational trophoblastic neoplasia with increasing rate of hematogenous spread to distant organ particularly to the lung. The mortality rate of chroiocarcinoma before chemotherapy management was 90% but advanced chemotherapy approach had contributed to favorable prognostic outcome and more than 90% curative rate.

Aim of the Study: To demonstrate the presentation of gestational trophoblastic choriocarcinoma with lung metastasis and related management outcomes.

Methods and Patient: This study was a case report of gestational trophoblastic choriocarcinoma with lung metastasis which had reported at obstetrics and gynecology department of Tripoli university hospital on 9th December 2023.The patient was on strict clinical and laboratory evaluation and she had received six cycles of chemotherapy management (EMACO) which ended by complete clinical and laboratory improvement.

Comment: Gestational choriocarcinoma is considered as highly aggressive gestational trophoblastic neoplasm with higher liability rate of hematogenous spread particularly to the lung. But with early recognition of the disease as well as prompt chemotherapy management and strict follow up, this contributed to good prognostic outcomes and helps to prevent related morbidity and mortality.

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List of Abbreviations

Beta HCG: Beta human chorionic gonadotropin
CBC: Complete blood count
CT Scan: Computed Tomography scan
EMACO: Etoposide, Methotrexate, D Actinomycin, Cyclophosphamide and Vincristine.
FIGO: International Federation of Gynecology and Obstetrics
IV: Intravenous
MRI: Magnetic resonance imaging Packed
RBC: Packed red blood cell
WBC: White blood cell

Introduction

The choriocarcinoma is rare highly aggressive malignant tumor of gestational trophoblastic neoplasia with increasing rate of hematogenous spread to distant organ particularly to the lung [1,2]. The vaginal bleeding is recognized to be the most frequent presentation and bleeding from extrauterine organs such as lung (60 - 75%), liver (15 - 20%), central nervous system (15-20%), and gastrointestinal tract (10 -20%) can be existed [3-5]. The mortality rate of chroiocarcinoma before chemotherapy management was 90% but advanced chemotherapy approach had contributed to favorable prognostic outcome and more than 90% curative rate [5-8]. The International Federation of Gynecology and Obstetrics (FIGO) staging and scoring system had stratified prognostic factors for choriocarcinoma treatment and prognosis outcomes [9]. The surgical management is indicated on certain situation such as persistent highly risk trophoblastic disease with no desire further pregnancy or for hemostastic purpose [10]. This study aimed to demonstrate the presentation of gestational trophoblastic choriocarcinoma with lung metastasis and related management outcomes.

Methods and Patient

On 9th December 2023, at 8:30 PM, Tripoli, Libya. A 29 years-old woman, para five + 0, blood group O rhesus positive, day 46 post vaginal delivery in Ghat (A city located at South of Libya), the patient transferred from Sabha hospital to obstetrics and gynecology department of Tripoli university hospital as case of choriocarcinoma by CT scan image which currently complained of severe vaginal bleeding with history of recurrent intermittent vaginal bleeding attacks throughout previous 46 days ago.

On assessed the vital signs, blood pressure was 80/60 mmhg (hypotension), pulse was tachycardia and oxygen saturation

was 96%. Also, the patient was markedly pale skin and mucus membranes with absent of jaundice or lower limb edema. Vaginal examination reported heavy vaginal bleeding with blood clots and abdominal examination was unremarkable. The ultrasonography revealed an enlarged uterus with obvious uterine mass measured about 7 x 6.5 cm. On measured her serum Beta human chorionic gonadotropin (Beta HCG) titer was 103999 mIU/ml.

On perform complete blood count showed hemoglobin concentration was 7.9 g/dl (Reference range: 12 to 18 g/dl), platelets count was 357 103/ml (Reference range: 150 to 350 103/ml) and white blood cells count was 12 103/ml (Reference range: 4 to 9 103/ml). And the patient had received four units of blood transfusion previously (two units in Ghat and two units in Sabha hospitals). The patient admitted to the department and managed promptly through insertion of two large bore cannula, urinary catheter as well as received 500 ml of normal saline (NaCl 0.9%), one gram tranexamic acid intravenous, one gram ceftriaxone and 500 mg metronidazole intravenously.

After supportive measures had undertaken the patient became stabilized and the management plan for choriocarcinoma situated. Next day on 10th December, the patient became clinically stable and vitally within normal range, her blood pressure was 100/60 mmhg, pulse was 83 bpm and temperature was 36.8 Co.On repeat her complete blood count: hemoglobin concentration was 7.17 g/dl, platelets count was 86103/ml and white blood count was 8.08 103/ml. And the serum Beta HCG titer was 313182 mIU/ml. Then the patient had received two unit of platelets transfusion, two units of packed RBC transfusion and four units of fresh frozen plasma as well as received furosemide 20 mg intravenous and prepared for 20 units of blood transfusion with cross match.

On 10th December, the computed tomography scan of the abdomen and pelvis had carried out which revealed uterine enlargement and heterogeneous lesion filled by fluid with enhanced wall measured about 10 x 14.9 x 7.7 cm. Also, right hydroureter with mild to moderate hydronephrosis had detected.

And the high resolution computed tomography scan of chest had performed which reported bilateral pulmonary nodular lesions measured about 1.4 x 1.2 cm at medial basal segment of the lungs and on assessed CT scan of the brain was unremarkable.

On 11th December, the patient constantly clinically and vitally stabilized. Her complete blood count: hemoglobin concentration was 11.17 g/dl, platelets count was 140.9 103/ml and white blood count was 5.16103/ml. And the serum Beta HCG titer was 236714 mIU/ml. On investigated her liver function, renal function and thyroid function tests were within normal ranges.

On 14th December, the patient had evaluated by gyneoncology consultant which advised to initiate chemotherapy regime (EMACO) according to her weight (63.5 Kg) and height (1.61meter) measurements which included etoposide 168.5 mg, methotrexate 505 mg with folinic acid 15 mg, D actinomycin 0.5 mg, cyclophosphamide 1011 mg and vincristine 1.3 mg.

Her complete blood count: hemoglobin concentration was 10.78 g/dl, platelets count was 199.7 103/ml and white blood count was 5.31 103/ml. And the serum Beta HCG titer was 339808 mIU/ml. Moreover, the patient had undergone strict clinical assessment and management protocol by gyneoncologist team which prescribed six chemotherapy (EMACO) regime cycles as the follow timeline illustrated Table (1).

Table 1: Illustration of Chemotherapy (EMACO) Regime Cycles Per Timeline

Date of Cycle	Date of Cycle Number of Cycle
14th December 2023	First cycle
24th January 2024	Second cycle
12th February 2024	Third cycle
5th March 2024	Forth cycle
27th March 2024	Fifth cycle
3th April 2024	Sixth cycle

The serum Beta HCG titer per mIU/ml had assessed constantly along with clinical evaluation throughout the management protocol as the follow timeline demonstrated Table (2).

Table 2: Describe the Serum Beta HCG titer per mIU/ml Timeline

Timeline on 2024	Serum Beta HCG titer per mIU/ml
24th January	66.56
13th February	10.89
5th March	3.09
16th April	1.04
30th April	0.00
19th May	0.00

On 30th April 2024, the patient was clinically stable and the serum Beta HCG titer was 0.00 mIU/ml and the last hemoglobin concentration was 10.67 g/dl.

On 19th May, the patient reevaluated again which reported same result of serum Beta HCG titer was 0.00 mIU/ml and advised for magnetic resonance imaging of the abdomen and pelvis.

On 26th May, the patient had performed magnetic resonance imaging of abdomen and pelvis which revealed regression course of the disease with normal uterine size, normal endometrial and myometrium thickness and no obvious soft tissue mass lesion had detected except small hypotense focal lesion at junctional zone with homogenous contrast enhancement measured about 1 x 0.7 cm which suspected for uterine leiomyoma. Finally, the patient had inserted Mirena intrauterine device and she was clinically improved for the disease completely.

Comment

Gestational choriocarcinoma is considered as highly aggressive gestational trophoblastic neoplasm with higher liability rate of hematogenous spread particularly to the lung.

But with early recognition of the disease as well as prompt chemotherapy management and strict follow up, this contributed to good prognostic outcomes and helps to prevent related morbidity and mortality.

Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

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Patient Consent
Obtained

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