

Toxic Effect of Chemotherapy (Even When Used in Conventional Dose) and Dealing with That Toxicity Effectively: A Case Report

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How to cite this paper: Qiong, L.J., Azaad, M.A. and Li, Y.P. (2017) Toxic Effect of Chemotherapy (Even When Used in Conventional Dose) and Dealing with That Toxicity Effectively: A Case Report. *Case Reports in Clinical Medicine*, 6, 127-131. <https://doi.org/10.4236/crcm.2017.64011>

Received: March 15, 2017

Accepted: April 27, 2017

Published: April 30, 2017

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Abstract

Background: Use of Chemotherapy is a double edged sword apart from destroying malignant cells it also has life threatening complications, so clinician should be ready to counter the complication while also dealing with malignancies. **Case Report:** We report a case of Invasive Mole who after initiation of first cycle of chemotherapy (5 Fluorouracil and Dactinomycin) developed Gastrointestinal and Myelosuppression related complications. **Conclusion:** Extreme Knowledge of Clinicians is a must to deal with infections and other potential complications while using chemotherapy.

Keywords

Invasive Mole, 5 Fluorouracil, Dactinomycin

1. Case History

24 years old female presented with recent history of Per Vaginal bleeding, subsequent investigation revealed extreme high level of beta HCG and USG of abdomen/pelvis findings were suggestive of molar degeneration. Biopsy sample was taken which proves malignancy. On the basis of these findings we made the diagnosis of invasive mole carcinoma. So immediate chemotherapy was planned (From Day 1 to Day 8) and we used chemotherapy (5 Fluorouracil–1.25 g/(m²per day), Dactinomycin-350 mg/(m²per day)). On Day 5 of initiation of Chemotherapy side effects were noted (itching sensation across the body which was partially controlled by use of antihistaminic drugs. On Day 7 red rash was noted around chest and back, accompanied by itching. Topical oral cetirizine, Calamine Lotion were applied. On D8 symptoms patient had developed pain abdomen, persistent passage of loose stool, oral ulcers were also noted). (Patient

also developed fresh episode of pyrexia). Complete Blood Count revealed Leucopenia and thrombocytopenia, for Fever associated with myelosuppression we used IV antibiotics (Piperacillin + Sublactam), we also used Granulocyte Colony Stimulating Factor. Pyrexia did not subsided after 2 days of course of these antibiotics so we changed antibiotics to Imipenem and Vancomycin after a day of it use Pyrexia along with frequent passage of loose stool, vomiting was controlled, Nystatin oral washing was done routinely and in a view of low albumin and decreased food intake IV albumin was transfused for few days. Within next few days Hematological and biochemistry were recovered and patient became symptomatically stable. On Day 8 patient also had multiple episodes of nausea and vomiting, which were relatively subsided on Day 9. On Day 10 significant abdominal pain, diarrhea, nausea, vomiting, diarrhea were (7 - 8 times) were noted. Therapy with omeprazole, belladonna mixture, antispasmodic were applied which shows no improvement. On Day 11 the above symptoms exaggerated even after rehydration and symptomatic treatment, daily diarrhea noted to be more than 30 times also accompanied by mouth ulcers, patient had marked anorexia by now. Complete Blood Count showed White Blood Cell: $WBC 1.08 \times 10^9/l$, the absolute value of neutrophil $0.17 \times 10^9/l$ that $PLT 76 \times 10^9/l$, Hemoglobin being within normal Limits. Ultrasound indicated that no obvious intestinal obstruction and pneumoperitoneum, patient also had fresh episode of Per Vaginal bleeding which was controlled by Uterine Artery embolization. On Day 13 pervaginal discharge were noticed On per Speculum Inspection it revealed organization of blood clots and inflammatory exudate, a little transformation of trophoblasts and local, trophoblastic cells have mild atypical. Hematology consultation was done they assumed the current clinical features secondary to side effects of Chemotherapy. Patient still was in tachycardia, rest vital parameters were within normal limits. Skin hyperpigmentation, multiple ulcer typically on mouth and Vagina were noted, bleeding from ulcer was observed by now. Complete. On Day 14, Complete Blood Count was repeated which revealed Leucopenia and thrombocytopenia, patient had marked tachycardia, ECG was done which revealed Paroxysmal Supraventricular Tachycardia (could be secondary due to electrolyte imbalance), Amiodarone was given and electrolyte were corrected and heart rate along with rhythm returned to normal. On Day 20 Complete Blood Count along with other electrolytes were checked which were within normal limits, these test were again repeated on Day 26 which were also within normal limits.

2. Discussion

An invasive mole (IM), a form of gestational trophoblastic neoplasia (GTN), is a pregnancy associated disorder, which is caused by a molar pregnancy. It has been reported that 0.5% - 1% of partial hydatidiform mole cases and 15% - 29% of complete hydatidiform mole cases progressed to become Invasive Mole.

Irregular vaginal bleeding is the most common symptom of Invasive Mole, however, further symptoms caused by bleeding in the metastases, such as he-

moptysis and neurological symptoms, may also be detected. Myometrium invasion, swollen villi and hyperplastic trophoblast are often considered to be the pathological features of Invasive Mole [1]. The clinical diagnosis of Invasive Mole relies on medical history, clinical symptoms, laboratory tests and examination using imaging [1].

Gestational trophoblastic disease (GTD) is known to be associated with increased maternal age and is more commonly observed in Asia. GTD has been subdivided into partial hydatidiform mole (PHM) with a fetal pole, often with triploidy, which refers to the combination of a fetus with localized hydatidiform placenta, and complete HM (CHM) without fetal tissue, which is typically diploid but derived entirely from the paternal genome [2]. Patients in their sixth decade are not expected to be spontaneously pregnant, and a physician may not even think of checking HCG level when confronted with abnormal vaginal bleeding. Moreover low levels of HCG production in the premenopausal and postmenopausal state are a normal physiologic phenomenon [3]. Therefore, the diagnosis of pregnancy and, moreover, GTD may be difficult. The risks of development of Choriocarcinoma are significantly higher in the case of Gestational Trophoblastic diseases. The next mode of treatment depends also upon the age of diagnosis and current and future maternity plans of individuals. We do need Chemotherapy as a part of treatment regimen in some course. So as a clinician it is must to ensure we must do our superlative effort to prevent the possible complication of Chemotherapy. In 2002, the International Federation of Gynecology and Obstetrics (FIGO) 2000 staging and risk factor scoring system, which recommends chemotherapy regimens for gestational neoplasia, were published by the FIGO Oncology Committee [4].

5-FU is widely used in combination with other drugs in the treatment of solid tumors, the side effects associated with use of 5 Fluorouracil are Frequent passage of loose stool, vomiting, anorexia the side effects depends also upon the different metabolism of individuals as every individuals metabolism may not be identical so only adjusting dose of chemotherapy according to body surface area may not minimize the side effects or complications associated with it [5]. Actinomycin D is the first antibiotics which has shown antineoplastic actions also.

To control the complications associated with pancytopenia is a challenge in itself, Blood transfusion in a form of Platelets Rich Plasma, Packed cell in adequate amount is a must to correct thrombocytopenia and anemia. To control the febrile neutropenia that is expected in severely low White Blood Cells the clinicians should have proper knowledge of Broad Spectrum antibiotics, antifungal drugs, routine use of Grannulocyte Colony Stimulating Factor extremely beneficial mode of treatment. Empirical therapies with broad-spectrum intravenous bactericidal, anti-pseudomonal antibiotics are the commonly accepted treatment approaches in febrile neutropenic patients. Knowledge of the specific infectious pathogens, their prevalence, and antibiotic resistance patterns guides application of empirical therapies to reduce mortality. Several broad-spectrum antibiotics are used in the treatment of febrile neutropenia. Regimens approved by many

clinical centres include cefepime, ceftazidime, imipenem, meropenem, piperacillin-tazobactam (PIP-TAZO), and cefoperazone-sulbactam (CS). Combinations of beta-lactam and beta-lactamases including PIP-TAZO and CS are successfully administered during febrile neutropenic episodes [6]. Particularly during the first cycle of chemotherapy the risks febrile neutropenia is significantly higher [7]. Clinicians must assess the general condition of the patient such as nutritional status, need to check the electrolyte status and if there is any electrolyte or some form of biochemical disturbance it needs to be corrected to minimize the toxic risks associated with chemotherapy.

3. Conclusions

- Side effects of Chemotherapy can be expected even while using the conventional dose.
- Apart from dealing with curing malignancy, oncologist also needs to be skillful in managing supportive measures as well.
- Multidisciplinary team efforts is required to counter the complications of chemotherapy the team includes Doctors, Nurses and a good blood bank service.
- Proper selection of antibiotics, antifungal and criteria for continuing or changing antibiotics requires extreme knowledge of antibiotics, that is vitals if you are about to initiate a chemotherapy regimen in patient.
- While dealing with cases of gynaecological malignancies it is important to always prioritize the health of patient rather than thinking about future child bearing status of the patient.

This patient using conventional dose chemotherapy first appeared severe side effects of chemotherapy, which is related with individual differences, early discovery and effective treatment is very important to improve the prognosis.

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