LEFT CA MAMMAE WITH FEBRILE NEUTROPENIA : A CASE REPORT

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Abstract

Introduction: Breast cancer is the most common cancer diagnosed, especially in women, accounting for more than 1 in 10 new cancer diagnoses each year. Physical examination, imaging and biopsy must be done to diagnose breast cancer.[1,2] Staging is performed to define prognosis and guide treatment recommendations for patients with a similar prognosis. Chemotherapy, hormone therapy, and targeted therapy are the systemic therapies used in breast cancer management. The therapies option are has an side effect, especially chemotherapy. Chemotherapy induced neutropenia is a common toxicity caused by the administration of anticancer drugs. This side effect are life-threatening infections and alter the chemotherapy schedule.

Case presentation: A female 50-years-old patient with left breast cancer on chemotherapy. She already has 3 times chemotherapy session and now had a fever with leucocyte result is 520 mg/dl and neutrophilia is 1.9 mg/dl. The patient has a history of painless lump in left breast since 11 months ago and growing proggresive. From physical examination, the lump with an ulcer with size 6x7x3cms and palpable hard consistency lump size is 8x8x5cms with irreguler edges and immobile. Patient had a biopsy examination with result invasive carcinoma ; high grade. From chest xray and USG Abdomen no finding sign of metastatic. Patient had an neo adjuvant chemotherapy

Conclusion: Breast cancer is cancer of the breast tissue. Risk factors for breast cancer are divided into two, namely risk factors that cannot be changed (gender, age, genetic factors, previous cancer history, race and ethnicity, menstrual history and history of chest radiation) and those that can be changed (history of contraception, history of pregnancy, hormone therapy after menopause, breastfeeding, alcohol consumption, and obesity). Therapy for breast cancer is divided into five, namely surgical therapy, radiotherapy, chemotherapy, biologic therapy, and hormonal therapy. The goal of breast cancer therapy is to increase the survival rate and quality of life of patients.

Case presentation

A female 50-years-old patient with left breast cancer on chemotherapy came to ER because had an fever since her last chemotherapy session 3 days before admission, complain also with vomitting and decrease of appetite.

The patient has a history of painless lump on left breast since 11 months ago and growing proggresive with tumor doubling

time (TDT) 90 days. The patient also complain of open wound since 9 months ago and had a bloody nipple discharge. Patient had an risk factor is early menarche when 10 years old and hormonal contraception used for 20 years. . From physical examination, the lump with an ulcer with size 6x7x3cms and palpable hard consistency lump size is 8x8x5cms with irreguler edges and immobile. Enlargement of nodes in another region is not finding. Then patient had an biopsy examination with result is invasive carcinoma ; high grade and chest xray and USG Abdomen no finding sign of metastatic. The patient than was diagnosed with Left Breast Invasive Carcinoma T4bN0M0 with stage classification is IIIB Patient had an neo adjuvant chemotherapy.

On her third chemotherapy-session, she has a fever for 3 days with vomitting and decrease of appetite. In ER her hemodynamic was stable with increase temperature in 39.6°C, from physical examination there are an anemic cojungtiva, palpable hard consistency painless lump size is 8x8x5cms with an ulcer, the lump is irreguler edges and immobile. Then she had an laboratorium examination with result ; Hemoglobin 9.3g/dl, Leucocyte 520/ul and neutrophilia 1.9mg/dl.

Due to her complain and examination, patient than diagnosed as Left Breast Invasive Carcinoma T4bN0M0 on NAC chemotherapy with febrile neutropenia and leucopenia. Patient was hospitalized for general condition improvement.

While hospitalized patient got a treatment with Leucogen subcutaneus and antibiotic Ceftriaxone 1grams per 12 hours intravena to prevent the infection causes by neutrophenia.

After hospitalized for 3 days, patients got better and discharge with stbale haemodynamic, no complain of fever and vomitting. Patient suggest to continue her chemotherapy session as schedule.

Discussion

Chemotherapy-induced neutropenia (CIN) is a common toxicity caused by the administration of anticancer drugs. This side effect is associated with life-threatening infections and may alter the chemotherapy schedule, thus impacting on early and long-term outcomes. Elderly breast cancer patients with impaired health status or advanced disease.[3,4] Neutropenic cancer patients may develop febrile neutropenia and CIN-related severe medical complications.[5] Specific risk assessment scores, along with comprehensive clinical evaluation, are able to define a group of febrile patients with low risk for complications who can be safely treated as outpatients. Conversely, patients with higher risk of severe complications should be hospitalized and should receive intravenous antibiotic therapy with or without G-CSF.

In a prospective study, 37% of breast cancer patients had an absolute neutrophil count less than 500 cells/mm3 over the first 4 cycles of chemotherapy.

From Common Terminology Criteria for Adverse Events (CTCAE), neutropenia is 'a finding based on laboratory test results that indicate a decrease in number of neutrophils in a blood specimen'. Because neutrophils circulation have a half-life of only 6–8 h after in the peripheral blood, a rapid and efficient bone marrow production is essential for immune system homeostasis. In cancer patients who has cytotoxic agents, neutropenia occurs as a result of decreased neutrophil production,

accelerated utilization, or a combination of both.[6,7,8]

Neutropenic patients may be predisposed to infections, typically arising from the endogenous skin or gut flora. Bodey et al. assessed that patients with an ANC < 1,000 cells/mm3 have a substantially increased risk of infection over time while those with an ANC < 100 cells/mm3 will likely develop severe infection within 1–4 weeks. To date, the CTCAE have graded neutropenia into 4 severity classes following the ANC[9]:

–Grade 1: ANC from the lower normal limit to 1,500 cells/mm3

–Grade 2: ANC from 1,500 to 1,000 cells/mm3

–Grade 3: ANC from 1,000 to 500 cells/mm3

–Grade 4: ANC < 500 cells/mm3

Antibacterial, antiviral, and antifungal prophylaxis should be considered given for patients expected to have profound neutropenia likely to last longer than 1 week. An antibacterial prophylaxis with oral fluoroquinolones is recommended to prevent invasive infection by Gram-negative bacilli in outpatients with profound neutropenia and mucositis expected to last for at least 7 days. The use of an orally administered triazole antifungal is recommended in the outpatient setting as prophylaxis in patients with > 10% risk of invasive Candida infection. Prophylaxis with trimethoprim/sulfamethoxazole should only be used if the risk of pneumonia from Pneumocystis jirovecii is > 3.5%. Lamivudine is recommended as prophylaxis in patients at high risk for reactivation of hepatitis B virus (HBV) infection[10]

Abbreviations
Neutropenia, Febrile neutropenia, Breast Cancer, Chemotherapy

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