Introduction

Febrile neutropenia (FN) has been observed one of the most common complications of administration myelosuppressive chemotherapy for cancer treatment [1]. As a result of this complication absolute neutrophile count (ANC) declines and predisposition to infection and its clinical manifestation “febril neutropenia (FN)” occurs [2].

The incidence rate of FN is 10% and 50% in solid tumors and ≥80% in hemato-logical malignancies [3]. The FN patient progression depends on patient factors such as age, tumor type and stage, previous hospitalizations or accompanied severe comorbidities [4]. Because of FN related high mortality and comorbidities rates, patients need immediate hospitalization and treatment [5,6].

Most of the patients have no documented infectious etiology. Clinically documented infections occur in 20% - 30% of febrile episodes; common sites of tissue-based infection include the intestinal tract, lung and skin. Bacteremia occurs in 10% - 25% of all patients, with most episodes occur in the setting of prolonged or profound neutropenia (ANC, <100 neutrophils/mm^3) [7,8].

FN is an undesirable problem, because it causes dose reduction and/or delay of treatment cycles, eventually affecting treatment efficacy, patient survival and life quality [9]. A retrospective analysis of breast cancer patients revealed that the survival rate was 40% in those receiving ≥85% of the chemotherapy dose, whereas the rate decreased to 21% in patients receiving <85% of the dose [10]. While dose reductions in palliative treatment may result in lower rates of tumor

response, patient's quality of life. Eventually, dose reduction in curative or adjuvant therapies may be associated with an increased risk for disease recurrence and death [11-13].

Mortality from FN has been declined but still has significant rates. Overall mortality rates are 5% in patients with solid tumours (1% in low risk patients) and as high as 11% in some haematological malignancies. Prognosis is worst in patients with proven bacteraemia, with mortality rates of 18% in gram-negative and 5% in gram-positive bacteraemia. Mortality varies according to the MASCC prognostic index, as low as 3% if the MASCC score is >21, but as high as 36% if the MASCC score is <15. Elderly patients are at a higher risk of febrile neutropenia following chemotherapy, with worse morbidity and mortality rates [2].

FN is an important clinical picture because of its high mortality and morbidity rates. It is required detailed investigation and carefully management. The management of FN has been established in this book with an examination of all current guidelines and articles.

References

[1] Caggiano V, Weiss RV, Rickert TS and Linde-Zwirble WT: Incidence, cost and mortality of neutropenia hospitalization associated with chemotherapy. Cancer 2005; 103(9): 1916-1924.

[2] de Naurois J, Novitzky-Basso I, Gill MJ, Marti FM, Cullen MH and Roila F: ESMO Guidelines Working Group: Management of febrile neutropenia: ESMO Clinical Practice Guidelines. Annals of Oncology 2010; 21(5): 252-256.

[3] Klastersky J: Management of fever in neutropenic patients with different risks of complications. Clinical Infectious Diseases 2004; 39(1): 32-37.