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Introduction • Febrile neutropenia is a relatively frequent event among cancer patients treated with chemotherapy. Since these patients lack the appropriate immunity response, early recognition and empiric treatment is crucial. This study was conducted in order to determine the outcome and mortality rate of febrile neutropenia in patients admitted to a tertiary care center, to evaluate and discuss the accuracy of management.

Methods • An epidemiologic, descriptive, prospective study was conducted at the hematology oncology unit at Notre-Dame du Secours University hospital from September 2014 till December 2015. All adult patients admitted to the hospital with the diagnosis of febrile neutropenia were included. Information on age, sex, type of cancer, WBC counts with differential counts at presentation, days since last cycle of chemotherapy, site of infection, days until recovery were collected. A statistical analysis was conducted to identify factors related to poor outcome and overall mortality rate.

Results • A total of 51 patients with febrile neutropenia were identified with mean age 55.67 (24-83) years, 29 (56.9%) being > 50 years. There was almost equal distribution of solid and hematological malignancies. Mean ANC at presentation was 210.98 cells/microliter (0-1400), mean AMC at presentation was 165.80 cells/microliter (0-732). Mean number of days since last cycle of chemotherapy was 12.08 (3-60) days. Most patients who recovered and were discharged were < 50 years of age, whereas all patients who died were >50 years (*p*-value of 0.02). Twelve (23.5%) patients had ANC recovery in 1-3 days, 17 (33.3%) patients showed ANC recovery in 4-7 days. While, 16 (31.4%) patients needed more than 7 days till ANC recovery out of which 2 patients (3.9%) died. Six (11.8%) patients had no ANC recovery out of which 4 (7.8%) died. Overall in-hospital mortality was 6 (11.8%) patients. The mean time for ANC recovery was correlated to prognosis (*p*-value < 0.001). Mean time for ANC recovery seen in hematologic malignancies was > 7 days and < 7 days for solid tumors. Mean monocyte count at presentation was correlated to prognosis (*p*-value = 0.05). Forty patients (78.4%) received accurate antibiotics but our study results showed no correlation between the accuracy of antibiotics and prognosis. Twenty-two (43%) had mouth & pharynx infection and 19 (37.3%) patients had bloodstream infection, which were mostly nosocomial.

Conclusion • Our study demonstrated that the overall mortality rate is comparable to international centers. It also demonstrated that age, monocytes at presentation and days until ANC recovery were important predictor of poor outcome. It revealed that delayed ANC recovery extended the duration of hospitalization and adversely affected the outcome and that most of the infections in hospitalized patients were nosocomial. We propose for the studies to follow to assess the monocyte count at presentation in addition to risk classification in order to evaluate the cost effectiveness of the use of GCSF and to guide the management.

Keywords: febrile neutropenia; absolute neutrophil count (ANC); absolute monocyte count (AMC); recovery time; discharge; death

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