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SAFETY OF CHEMOTHERAPY RECYCLING IN SOLID TUMOR PATIENTS WITH AN ABSOLUTE NEUTROPHIL COUNT (ANC) UNDER 1500/MM³

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Aim: Neutropenic fever is one of the major causes of morbidity and mortality in patients receiving cancer treatment. An ANC of at least 1500/ mm³ is usually required for chemotherapy administration, and dose reductions and delays caused by a low neutrophil counts may potentially impact on outcomes. Surprisingly, there is no clear evidence of what ANC cut-off value should actually be used in clinical practice. The aim of this study was to assess the clinical outcomes in patients receiving chemotherapy with ANC less than 1500/ mm³ compared to those with normal ANC.

Methods: In this bi-institutional retrospective study, we evaluated 157 consecutive patients with solid tumors and compared clinical outcomes (neutropenic fever, delay or dose reduction of chemotherapy, antibiotic use and hospitalization) between two groups according to their ANC: either under, but at least 1000/mm³, or above 1500/ mm³ before the beginning of each cycle.

Results: A total of 155 patients were analyzed. Among patients who had their treatment delayed in the second cycle, 4 (44.4%) had less than 1500/mm³ and 5 (55.6%) had more than 1500/mm³ on the beginning of each cycle (HR for treatment delay: 0.88; p = 0.84). The respective values for the third cycle were 5 (55.6%) and 4 (44.4%), (HR=0.51; p = 0.29). The hazard ratios for fever, need of antibiotic and hospitalization were 1.93 (p = 0.22), 1.97 (p = 0.15) and 1.27 (p = 0.65) in the 2nd cycle and 1.76 (p = 0.3), 2.4 (p = 0.08) and 2.35 (p = 0.15) in the 3rd one.

Conclusions: Patients with solid tumors who received chemotherapy with ANC less than 1500/mm³ did not seem to have a worse clinical outcomes compared to patients with higher counts. Regarding the rates of fever, need of antibiotic, hospitalization and treatment delayed, there was not a statistically significant difference between the two groups.

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