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## **Adherence to Clinical Protocols for Managing Febrile Neutropenia in Hematopoietic Stem Cell Transplant Recipients**

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## Adherence to Clinical Protocols for Managing Febrile Neutropenia in Hematopoietic Stem Cell Transplant Recipients

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**Introduction:** Severe infections and febrile neutropenia (FN) are frequently observed in patients undergoing bone marrow or hematopoietic stem cell transplantation (HSCT) as a result of conditioning regimens. Adhering to the antibiotic guidelines established by the Infectious Diseases Society of America (IDSA) and the National Comprehensive Cancer Network (NCCN) is vital for these patients to reduce the risks of extended hospital stays, antibiotic resistance, increased healthcare costs, morbidity, and mortality. The purpose of this study was to assess adherence to FN clinical guidelines among patients receiving HSCT.

**Methodology:** This was a prospective, observational study conducted over three months at a reputable institution specializing in blood disorders and bone marrow transplantation. Participants included those who experienced at least one episode of FN following HSCT. Compliance with the antibiotic treatment guidelines for FN established by IDSA and NCCN was evaluated through a review of patients' medical records.

**Results:** The average age of the patients was 15.09 years ( $\pm 6.57$ ). A total of 30 patients with 33 episodes of FN were analyzed. The therapy for FN was evaluated based on compliance with guidelines (IDSA, NCCN) regarding antibiotic selection, initial regimens, and timing of administration. Unfortunately, 60% of the patients did not follow the IDSA and NCCN recommendations for modifying initial regimens and dosing, with only 40% receiving treatment according to the guidelines. Febrile neutropenia (FN) is a commonly reported complication of chemotherapy, particularly in patients with hematologic malignancies.

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A significant proportion of FN episodes are linked to infections, which are among the leading causes of morbidity and mortality in cancer patients. Traditionally, guidelines for managing FN have emphasized the administration of antimicrobials. In cancer patients undergoing chemotherapy, fever necessitates immediate attention from healthcare professionals due to its potential serious implications for mortality and overall healthcare expenses.

**Conclusion:** There was significant noncompliance with clinical guidelines, particularly concerning the use of vancomycin and modifications to initial regimens, which negatively impacted patient outcomes and length of hospital stays. It is crucial to conduct training sessions on IDSA and NCCN guidelines to enhance healthcare professionals' awareness and promote the appropriate use of antimicrobial agents.