The Multinational Association for Supportive Care in Cancer (MASCSC risk index) was initially developed in 2000 to assess low risk cancer patients with febrile neutropenia who may be candidates for outpatient antibiotic management.1-4 Subsequent studies have also validated its predictive value for febrile neutropenic patients at high risk for poor outcomes such as severe sepsis and septic shock.1,4,6,7,8,9,10. The majority of studies included patients with solid tumors who received recent chemotherapy and experienced a short duration of neutropenia.6 Six out of 12 studies included 370 out of 833 (39.6%) total patients with hematologic malignancies, and none of the studies defined patients undergoing hematopoietic stem cell transplantation (HSCT) or having infections after failure to engraft the transplanted marrow or loss of their bone marrow graft.2,5,6,7,12 According to the American Society of Clinical Oncology (ASCO), MASCSC scores should be used to identify sicker patients with febrile neutropenia who are candidates for hospital admission with intravenous antibiotics.9 Research validates that patients exhibiting symptoms of sepsis, severe sepsis, and septic shock may not always be febrile, and this symptom may not be present in HSCT patients receiving immunosuppressive medications.4 This quality improvement project implemented sepsis best practice guidelines in an ambulatory clinic caring for patients with hematologic malignancies using the appropriate MASCSC scores for all patients meeting sepsis screening criteria. Secondary analysis of MASCSC scores from this QI project provides descriptive data about the application of this scoring index in a specialized population setting.

**Background**

This instrument was studied in a larger population of transplant patients with an adequate sample to allow for subgroup analysis between types of transplant.

**Methods**

Comparison of MASCSC total score between Investigators and bedside clinician. A paired samples t-test was conducted to compare MASCSC scores by missing history of fungal infection. N = 35 paired samples t-test. Mean = 19.66, Mean = 19.54. *0.000... >0.049 = high strength of association. Relationships between MASCSC scores and Infection-Related Characteristics

**Results**

1. This is the first known report of the use of the MASCSC score in sepsis screening of patients with hematologic malignancy and non-malignant disorders treated with chemotherapy and transplant. MASCSC scores were associated with specific elements that are known components of the MASCSC score (e.g., age, blood pressure, burden of illness), confirming validity of this instrument.

2. Significant relationships with patient characteristics indicating more severe disease suggests additional work with larger samples may clarify the value of using the MASCSC score in this population.

**Conclusions**

- This instrument should be studied in a larger population of transplant patients with an adequate sample to allow for subgroup analysis between types of transplant.

- Evaluation of a larger sample of transplant patients exhibiting fever is needed to fully assess the applicability of the MASCSC score in transplant patients.

- Additional variables or layers of screening and evaluation are yet to be identified for clinical applicability.

**References**


10. Subsequent studies have also validated its' predictive value for febrile neutropenic patients. Six out of 12 studies included 370 out of 933 (39.6%) total patients with hematologic malignancies, and none of the studies defined patients undergoing hematopoietic stem cell transplantation (HSCT) or having infections after failure to engraft the transplanted marrow or loss of their bone marrow graft.2,5,6,7,12

11. This quality improvement project implemented sepsis best practice guidelines in an ambulatory clinic caring for patients with hematologic malignancies using the appropriate MASCSC scores for all patients meeting sepsis screening criteria. Secondary analysis of MASCSC scores from this QI project provides descriptive data about the application of this scoring index in a specialized population setting.

**Abstract**

The Multinational Association for Supportive Care in Cancer (MASCSC) risk index was initially developed in 2000 to assess low risk cancer patients with febrile neutropenia who may be candidates for outpatient antibiotic management.1 Subsequent studies have also validated its predictive value for febrile

**Funding Source:**

The Helene Fuld Leadership Program for the Advancement of Patient Care Quality and Safety