INTRODUCTION: Bloodstream infections (BSIs) and central line infections remain among the major causes of morbidity and mortality in transplant recipients because of prolonged neutropenia and mucosal damage. The objective of this study was to determine the frequency and outcome of bacterial and fungal isolates from patients undergoing allogeneic hematopoietic stem cell transplant.

MATERIALS AND METHODS: This study was conducted at the Aga Khan University and Hospital’s bone marrow transplant unit. All patients who underwent an allogeneic stem cell transplant with matched sibling/parent donor were included. The study period ranged from April 2004 to December 2012. Transplantation was performed according to institutional protocols. All patients were admitted in single rooms with positive pressure and high-efficiency particulate air filters. Ciprofloxacin, fluconazole, and valaciclovir were used for standard prophylaxis, which was started at the time of conditioning. All blood cultures were obtained at clinical suspicion of systemic infection, mainly documented as fever (temperature of >38.5°C). BSIs and line infections were defined as isolation of bacterial or fungal pathogen from at least one blood/central line culture.
RESULTS: In total, 101 of 108 patients developed febrile neutropenia. In the 101 patients, 245 documented febrile episodes occurred. There were 40 culture-positive episodes and 205 culture-negative episodes. Of these 40 culture-positive episodes, 22 patients had bloodstream isolates and 18 had central line isolates. The median ± standard deviation time of febrile neutropenia was day 7 ± 2 days (range: day -3 to day +13). The most common bloodstream isolate was E. coli (n = 9) followed by Staphylococcus epidermidis (n = 5). One patient developed Fusarium infection. In central line infections, S. epidermidis was the most common organism (n = 8). In 2 patients with central venous catheters, Candida albicans was the isolate. Transplant-related mortality from sepsis occurred in 9.2%.

CONCLUSION: E.coli was mainly responsible for BSI, while gram-positive organisms dominated catheter-related febrile episodes. Transplant-related mortality due to sepsis was 9%.