

Abstract No. **45**

Category: **Vascular Medicine**

Title: **Prevalence and Risk Factors for Arterial Hypertension in Adults following Hematopoietic Stem Cell Transplantation**

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**Abstract:**

**Background:** Survivors of hematopoietic stem cell transplantation (HSCT) are 2 to 4 times more likely to develop cardiovascular diseases, accounting for 2-11% of mortality among long-term survivors. Early diagnosis and treatment of modifiable risk factors, such as arterial hypertension, are imperative in this group of patients. The aim of this study is to evaluate the prevalence and risk factors of hypertension following HSCT in a Colombian population.

**Methods:** A retrospective study was conducted in 220 consecutive adult HSCT recipients who underwent transplantation between 2009-2017 at a third referral center. Blood pressure data, from two different measures, were collected at 7 time points: day of mobilization for autologous HSCT (auto-HSCT) and day 0 before infusion for allogeneic HSCT (allo-HSCT), day 7, and months 1, 3, 6 and 12 post-HSCT.

**Results:** One hundred and seventy-one patients were included, with a median age of 45 years (range 18-71). Ninety-one patients (52%) were male. One hundred and fifteen patients (67.3%) underwent auto-HSCT and 56 (32.7%) allo-HSCT. Thirty-six patients (13.7%) presented hypertension by the end of the first year of follow-up. Prevalence of hypertension at each time point was 2.3% on day 7 post-HSCT, 6.9%, 9.8%, 12.1% and 13.8% at 1, 3, 6 and 12 months respectively. Allo-HSCT ( $P<0.001$ ), diagnosis of leukemia ( $P<0.001$ ) or lymphoma ( $P<0.05$ ), therapy with calcineurin inhibitors ( $P<0.01$ ), prophylactic treatment for GvHD with mycophenolate ( $P<0.05$ ) and acute GvHD ( $P<0.001$ ) were significantly associated with the development of hypertension. After performing multivariate regression analysis to identify hypertension associated factors, patients with allo-HSCT were found to be 4 times more likely to develop arterial hypertension than patients with auto-HSCT (95% CI 1.86-8.61,  $P=0.000$ ).

**Conclusions:** Screening for arterial hypertension is warranted in HSCT survivors. Similar to findings reported in previous studies, association between post-HSCT hypertension and allo-HSCT, therapy with calcineurin inhibitors, mycophenolate and acute GvHD was found in the present cohort. Patients undergoing allo-HSCT are at increased risk of developing hypertension.