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POSTER ABSTRACTS

711.CELL COLLECTION AND PROCESSING

Prior Daratumumab Exposure and It's Correlation to Parameters Related to Apheresis Prior to Hematopoietic Stem Cell Transplantation in Multiple Myeloma

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A number of recent studies have brought to light the potential detrimental effect the biologic monoclonal antibody daratumumab, directed towards CD38, may have on the collection of stem cell collection for hematopoietic stem cell transplantation (HSCT). In our evaluation of this claim, we retrospectively reviewed multiple myeloma patients who underwent autologous HSCT at a major tertiary transplant center between 2017 and 2022. A total of 240 patients were identified which included 62 patients who received daratumumab prior to stem cell collection and 178 patients who had no prior daratumumab exposure. Basic demographic data was collected as well as radiation, chemotherapy, and smoking history. No significant differences were identified between the groups based on demographics, smoking, or radiation exposure. Parameters related to peripheral stem cell collection were identified and recorded. We found that in patients exposed to daratumumab prior to apheresis, the mean number of days of apheresis required to reach the target collection goal was statistically increased compared to control (1.42 days $\pm$ 0.07 vs 1.26 $\pm$ 0.03; $p<0.05$). Furthermore, medications used to increase peripheral stem cell collection yield were also increased. It was demonstrated that the mean number of doses of plerixafor and G-CSF analogs were increased in the daratumumab group vs the control (1.08 $\pm$ 0.12 vs 0.6 $\pm$ 0.05; $p<0.001$ and 5.98 $\pm$ 0.31 vs 5.17 $\pm$ 0.06; $p<0.001$ respectively). Total number of stem cells collected both as an absolute number and controlled for the number of days of apheresis were lower in the daratumumab group compared to the control (5.31x10^6 $\pm$ 0.31 vs 6.68x10^6 $\pm$ 0.20; $p<0.05$ and 4.16x10^6 $\pm$ 0.32 vs 5.84x10^6 $\pm$ 0.21; $p < 0.001$ respectively). These results suggest that pre-apheresis exposure to daratumumab has a detrimental effect on peripheral stem cell collection. These results have a significant implications for both long term patient care and healthcare system resource utilization. The clinical outcome implications of daratumumab are currently not well known and further study is needed to determine if alterations in stem cell collection protocols would result in improved stem cell collection yields for patients with pre-collection daratumumab exposure.
All data is expressed as mean $\pm$ SEM

Disclosures No relevant conflicts of interest to declare.

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