USE AND EFFECTIVENESS OF PLERIXAFOR FOR HEMATOPOIETIC STEM CELLS MOBILISATION

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BACKGROUND: Plerixafor is an immunostimulant used in combination with granulocyte colony-stimulating factor (G-CSF), to mobilize to the peripheral blood for collection and subsequent autologous transplantation in patients with lymphoma or multiple myeloma. Peripheral blood stem cell mobilization, which is important as a source of hematopoietic stem cells for transplantation, is generally performed using granulocyte colony-stimulating factor (G-CSF) alone, but is ineffective in around 15 to 20% of patients. Combination of G-CSF with plerixafor increases the people that respond to the therapy and produce enough stem cells for transplantation.

PURPOSE: To describe the use and effectiveness of plerixafor for hematopoietic stem cell transplantation (HSCT) recipients.

MATERIAL AND METHODS: Retrospective observational study was made including patients who received plerixafor between May 2011 and August 2016.
The variables collected were: sex, age, diagnosis, G-CSF dose receive, plerixafor dose receive, CD34+ cells/kg collected.
The optimal dose of CD34+ cells collected is $\geq 5x10^6$ cells CD34+/kg , minimum dose is $\geq 2x10^6$ cells CD34+/kg, insufficient dose $\leq 2x10^6$ cells CD34+/kg. The end point was the percentage of patients who collected at least 2×10^6CD34+ cells/kg.

RESULTS: Plerixafor was prescribed in 14 patients, six women and eight men with and average age of 44 years. A total of eleven patients were diagnoses of lymphoma and three patients of myeloma. All of them were treated previously with G-CSF alone without response.
The plerixafor dose given was 0,24 mg/kg. and all of them had previously received G-CSF 10 micrograms/kg daily for four days prior to the first dose of plerixafor.
A total of five patients were required two dose of plerixafor. This increased the cost of treatment.
Two (14%) of fourteen patients had an optimal mobilization response treatment achieved to collect $\geq 5x10^6$ cells CD34+/kg. Ten patients (72%) had a minimum mobilization, $\geq 2x10^6$ cells CD34+/kg. Two patients (14%) had a suboptimal mobilization response treatment achieved to collect $\leq 2x10^6$ cells CD34+/kg.
Adverse effects were not observed.

CONCLUSION: In general, plerixafor is an effective drug for hematopoietic progenitor cells mobilization for autologous transplantation, 72 % of patients collected at least 2×10^6CD34+ cells/kg.

No conflict of interest.