

General MM

## EBMT 2019 | Real-world clinical experience of multiple myeloma induction regimens: subgroup analysis from the EMMOS study



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On Wednesday 27 March 2019, during [the 45th Meeting of the European Society for Blood and Marrow Transplantation \(EBMT\)](#) in Frankfurt, Germany, [Mohamad Mohty](#), Hospital Saint-Antoine and University Pierre & Marie Curie, Paris, France, explained the evolution of induction regimens in multiple myeloma (MM) and presented the results from a subgroup analysis of the real-world clinical experience, EMMOS study. The Multiple Myeloma Hub has covered this session in two articles. This article is the second part, detailing the EMMOS subgroup analysis. The first part discussing how induction regimens have evolved is [available here](#).<sup>1</sup>

Following discussion of the evolution of induction regimens in MM, Professor Mohty explored the translation of this process into real-world clinical practice by presenting results from the EMMOS study.

### The EMMOS study ([NCT01241396](#))<sup>1,2,3</sup>

- Prospective, multinational and non-interventional
- Aim: To obtain and analyze data on the real-world usage of different treatment strategies and disease progression in patients with MM
- Eligibility: Adult patients who began any new MM therapy between 2010 and 2012
- Enrolment was stratified
- Baseline data on patients included; disease features, treatment history, and remission status
- Prospective data on treatment efficacy and safety were collected every 3 months until 2 years after final patient enrolment

The full analysis in 2358 patients (775 who underwent stem cell transplant [SCT] and 1583 who did not) was published in [Clinical Lymphoma, Myeloma, and Leukemia](#) and is available [here](#). The full dataset provides information on the prevalence and incidence of MM worldwide, including the information on disease status at different lines of therapy.<sup>2</sup>

The EBMT presentation focused on a new subgroup analysis of patients who underwent SCT after enrolment (n = 380). Of these patients, 79% (n = 299) underwent autologous SCT (ASCT) as frontline therapy and most (81%) had a single transplant. Of these 299 patients, the most commonly used induction regimens are shown in **Table 2**.

**Table 2:** Most frequently used induction regimens (N = 299)<sup>1,3</sup>

Regimen	N	%
Bortezomib + thalidomide + dexamethasone (VTD)	95	32
Bortezomib + cyclophosphamide (VD)	56	19
Bortezomib + cyclophosphamide + dexamethasone (VCD)	49	16
Bortezomib, doxorubicin, and dexamethasone (PAD)	26	9
Cyclophosphamide, thalidomide, and dexamethasone (CTD)	24	8
Bortezomib + lenalidomide + dexamethasone (VRD)	4	1
Other	45	15

When looking at patients receiving the VTD regimen:

- Thalidomide dose was most commonly 100 mg
- Most of these were 21-day cycles
- The most frequent number of cycles of VTD was 3 (42%) and 4 (38%)
- Responses of patients receiving VTD induction before ASCT (n = 95)
  - Complete response (CR): 39%
  - Near CR (nCR) or VGPR: 28%
  - Partial response (PR): 16%
  - After ASCT, the best objective response rate (ORR) was >83%
  - Best response of  $\geq$  very good PR (VGPR):  $\geq$ 65%
- For patients receiving 'other' induction regimens (n = 15):
  - Best ORR: 71%
  - $\geq$ VGPR: 29%

## Conclusion

In this real-world study, VTD was shown to be the most commonly used induction regimen, with comparable response rates to those reported in phase III clinical trials. The real-life experience showcased in the EMMOS sub-study is in line with current global 2017 ESMO guidelines which recommend 4 VD-based triplet combinations.

Many novel agents are in development, such as CAR T-cell therapy and other immunotherapy approaches such as monoclonal or bi-/tri-specific antibodies. Factors currently preventing their day-to-day usage include lack of data on efficacy, health authority approval, expense, and country-specific restrictions.

Since access to novel MM induction treatments is dependent on multiple clinical and economic factors, VTD will likely remain the standard of care.

## References

1. Mohty M. *et al.* Multiple myeloma (MM) treatment in real-world clinical practice: a focus on induction regimens prior to autologous stem cell transplantation (auto-SCT) from the prospective, multinational, non-interventional EMMOS study. Abstract #OS12-3. 2019 March 27. 45th Annual Meeting of the European Society of Blood and Marrow Transplantation (EBMT), Frankfurt, DE
2. Mohty M. *et al.* Analysis of final data from the multinational, non-interventional, observational Emmos study (NCT01241396) in patients (pts) with multiple myeloma (MM) in real-world clinical practice. Abstract #3034 (poster). 2015 Dec 03. 57th Annual Meeting of the American Society of Hematology, December 5-8, 2015, Orlando, FL.
3. Mohty M. *et al.* Multiple myeloma treatment in real-world clinical practice: results of a prospective, multinational, noninterventional study. *Clin Lymph Myel Leuk*. 2018 Oct. DOI: 10.1016/j.clml.2018.06.018

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