

## TREATMENT OPTIONS FOR FIRST RELAPSE POST-AUTOLOGOUS TRANSPLANT IN THE ERA OF MAINTENANCE THERAPY FOR MULTIPLE MYELOMA: A RETROSPECTIVE REVIEW

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**Introduction:** Lenalidomide maintenance therapy (LenM) following autologous stem cell transplant (ASCT) in younger/fitter MM patients has become standard care. However, most MM patients will relapse post-ASCT with many effective relapse regimens having a lenalidomide backbone, therefore making choice of regimen at first relapse increasingly difficult in patients progressing during LenM therapy. We carried out an audit of treatment pathways in MM patients undergoing ASCT, focusing on choice of therapy post LenM.

**Methods:** Retrospective audit of MM patients attending an Irish hospital who underwent ASCT from 2010-2020.

**Results:** 71 patients underwent ASCT for MM between 2010-2020. Most frequently used induction was cyclophosphamide(C), bortezomib(V) and dexamethasone(D) (>60%, VCD). Use of maintenance therapy increased significantly over this decade and LenM was most common agent (>75%). Relapse regimens included carfilzomib/dexamethasone(KD) +/- lenalidomide(KRD), VCD, daratumumab(dara), pomalidomide(PD), ixazomib(ID). 26 patients did not receive maintenance containing lenalidomide. There were 13 relapses in this group: 30.8% received lenalidomide regimens (RVD/VCD) at relapse and 30.8% received KD. First relapse therapy for 17 patients who progressed during LenM included: KD 64.7%, dara 11.7%, PD 5.8%, RV 11.7% and VCD 5.8%. Overall, carfilzomib was most common therapy at first relapse. We observed a marked increase in carfilzomib use from 2015-2020, in parallel with increased use of LenM. Notable absences from the relapse regimens are DRD and PVD combinations which were not reimbursed for prescription in Ireland.

**Conclusion:** This audit outlines the treatment pathway and outcomes for patients with MM undergoing ASCT over 10 years in our centre. We have noted significant changes in choice of therapy at relapse, with carfilzomib use increasing and lenalidomide-based treatment decreasing. Our real world data provides insight into the effect of widespread LenM therapy on choice of agent at relapse and highlights the need for consensus guidelines to reflect this evolution in treatment for MM patients.