

Delivering a patient centered myeloma autograft service

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Background

We provide myeloma (MM) autologous stem cell transplant (ASCT) services to a catchment population of ~4 million. Our MM patient group told us that they would like to spend less time in hospital during their ASCT. This corresponded with capacity challenges in our inpatient unit, leading to clinician and patient interest in developing alternative delivery models.

Methods

To address the needs of our patients and service we introduced ambulatory (A-ASCT, admission only if required) and hybrid (H-ASCT, planned admission on day+7) models of ASCT delivery alongside our existing inpatient (I-ASCT) pathway. In parallel we developed a regular nurse led “Autograft Academy” patient and carer education session covering patient focused topics including nutrition, exercise and managing fatigue. Participants have the opportunity to hear the experience of patients who have recently completed H-ASCT or A-ASCT. Our MM patient group guided the focus of the work and participate in the Autograft Academy. We have assessed the safety, resource utilization and quality of life impact of these service improvements.

Results

Since the introduction of H-ASCT and A-ASCT in December 2024, 65 patients have undergone ASCT (6 A-ASCT, 9 H-ASCT, 50 I-ASCT). There was no clinically significant difference in median neutrophil (A-ASCT 14 days; H-ASCT 13 days; I-ASCT 14 days) and platelet (A-ASCT 24 days; H-ASCT 28 days; I-ASCT 26 days) engraftment time between the 3 ASCT pathways. Median hospital length of stay was 6 days for A-ASCT, 10 days for H-ASCT and 20 days for I-ASCT. This equates to the creation of 174 days of additional inpatient bed capacity over a 15 month period. Interestingly median days of antibiotic use was lower for those on ambulatory / hybrid pathways (A-ASCT 3 days, H-ASCT 4 days, I-ASCT 10 days). There were no differences in ITU admissions and no safety concerns identified.

We assessed patient reported symptoms at baseline, hospital discharge (where applicable), 1 and 3 months post ASCT. There was no detrimental impact on quality of life from A-ASCT or H-ASCT, with a suggestion that A-ASCT patient experienced less

reduction in mobility and activity and recovered more quickly than those who had a planned admission during their treatment. Patients reported overall satisfaction with the ASCT service.

Discussion

We have demonstrated that a flexible approach to ASCT, with patient focused education and support can offer a safe and resource efficient ASCT programme, with no detrimental impact on engraftment, safety or patient quality of life, and a reduction in the use of antibiotic treatment. While only 25% of patients chose to have A-ASCT/H-ASCT, this still liberated 174 days of additional inpatient bed capacity, equivalent to the availability of an additional hospital bed for 2 weeks every month. Our ongoing drive to deliver patient focused care continues with the next phase of our work, focusing on exercise and functional activity.