Clinical Oncology Society of Australia

CLINICAL CASE STUDY

Haematology

SITUATION	60F "Mary Smith" electively admitted for a Melphalan Autologous Stem Cell Transplant (AutoSCT) on b/g of IgG kappa Multiple Myeloma. Unintentional loss of weight (LOW) 5-10% within the past 3-6 months. Malnutrition universal screening tool (MUST) completed by nursing staff on admission. MUST = 2. Automatic referral to nutrition given high risk treatment. Referral to physio for deconditioning and fatigue impacting mobility. Mary was tearful during consultations. She reported feeling distressed and frustrated by unintentional weight loss and reported a fear of vomiting and diarrhoea was contributing to her reluctance eat. She was referred to psychology.
WHAT care was delivered? **(Action)**	• Nutrition assessment - Mary had been weight stable for the past 1/12 prior to admission however had a gradual 5% LOW within the 5/12 prior with mild deficits in muscle status and fat stores. - Day 1 - Mary was eating well, with only a mild reduction in appetite and no other nutrition impact symptoms. - Proxy measure of muscle mass. BMI-adjusted calf circumference = 37cm. - PG-SGA score 8; Stage B (moderate/suspected malnutrition) - Day 8 - Mary's oral intake gradually declined during her neutropenic phase with nutrition impact symptoms including reduced appetite, nausea, vomiting, mucositis and diarrhoea. - Day 18 – Proxy measure of muscle mass. BMI-adjusted calf circumference = 36cm. - PG-SGA score 13; Stage B (moderate/suspected malnutrition) • Physical assessment - Day 3 - Muscle strength assessed. 5 times sit to stand = 16 sec. - Probable sarcopenia using EWGSOPs diagnostic criteria - Day 18 – Muscle strength assessed. 5 times sit to stand = 14 sec - Not sarcopenic using EWGSOP2 diagnostic criteria • Nutrition therapy - Soft/moist high energy high protein diet. Oral nutrition supplement commenced BD. Dietary counselling on the importance of optimal nutrition, the presence of increased requirements during transplant, and food safety while immunocompromised. - Mary required parenteral nutrition (PN) due to severe neutropenic colitis from day 8 – 13.

	• Exercise therapy - Daily individualised exercise sessions during inpatient admission. Prescription included mobilisation and resistance training, including bands, weights, or body weight. When medically necessary (e.g. neutropenic; febrile) exercise sessions paused or completed in patient room. - Graded progression of aerobic exercise volume and intensity; graded progression of resistance training intensity; inclusion of balance exercises for falls prevention encouraged upon discharge home. - Consideration given to lytic lesions, if present. • Multidisciplinary care - Symptom management by nursing and medical staff. - Screened with the Patient Health Questionnaire-9 and Generalised Anxiety Disorder-7 scales and scored in the moderate-risk range for both a depressive disorder and anxiety-disorder. She attributed both her low mood and worry to distress related to eating and fear of physical effects such as vomiting and diarrhoea. Psychological intervention was delivered collaboratively with the treating dietitian and used a cognitive behavioural therapy approach. Therapy focused on stabilising mood and gradually increasing the amount and range of foods Mary consumed, aiming to reduce psychological barriers to eating and support improved nutritional intake. • Transition of care - Transition to outpatient dietitian and group exercise program at treatment centre following discharge post-transplant.
WHO delivered the care? **(Actor)**	• Malnutrition screening - *nursing staff* • Nutrition assessment and intervention - *dietitian* • Physical assessment and intervention – *physiotherapist* • Symptom management - *medical staff*
WHERE was care delivered? **(Context)**	Inpatient and outpatient setting Treating cancer centre
WHO received care? **(Target)**	Adult inpatient (≥18 years) admitted for a Stem Cell Transplant
WHEN was care provided? **(Time)**	• Nutrition assessment - *on Day 1 of admission and prior to discharge* • Physical assessment – *on Day 3 of admission and prior to discharge* • Nutrition Therapy - *every 1-4 days from D0 onwards* • Exercise Therapy - *daily or as tolerated during inpatient admission. Weekly during outpatient rehabilitation*

OUTCOMES	The dietitian was able to confidently advocate for nutrition escalation with the multidisciplinary team, resulting in better outcomes for the patient. The physiotherapist was able to prevent further reduction in muscle mass and physical function during inpatient admission, and support Mary in adopting regular physical activity into daily routine. The physiotherapist was able to support rehabilitation improving strength, functional exercise capacity and physical function post-AutoSCT, by providing advice and prescription for safe, progressive overload. On reflection, initiation of malnutrition and sarcopenia screening pre-treatment and referral for multi-modal prehabilitation may have optimised Mary's nutritional status and physical performance prior to transplant.