Clinical Oncology Society of Australia

CLINICAL CASE STUDY

Rural

SITUATION

45M "Bob Smith" with oropharyngeal cancer living in rural NSW (8 hours from Sydney) requiring induction chemotherapy followed by 7 weeks of chemo-radiotherapy.

7-month history of dysphagia and 15% weight loss in 3-6 months. Malnutrition screening completed at treatment planning (MST = 4). Referred to dietitian.

Clinical nurse consultant provided "Exercise for people living with cancer" booklet from Cancer Council and referred to local exercise physiologist for individualised exercise during induction chemotherapy.

WHAT care was provided? **(Action)**

- Nutrition assessment
  - Pre-treatment - Only tolerating a liquid diet secondary to dysphagia. PG-SGA score 15; Stage C (severely malnourished), evidenced by significant weight loss, with severe muscle/ fat deficits.
  - Week 1 chemo-radiotherapy- PG-SGA score 12; Stage B (moderate/ suspected malnutrition), evidenced by moderate deficit of muscle/fat stores
  - 3 months post treatment - PG-SGA score 7; Stage A (well-nourished), evidenced by mild deficit of muscle/fat stores.
- Physical assessment
  - On commencement of induction chemotherapy - Hand grip strength = 23kg; Calf circumference = 27cm; 400m walk test = 7min 16sec
    Severe sarcopenia diagnosed using EWGSOP2 diagnostic criteria
  - 3 months post treatment - chemotherapy - Hand grip strength = 26kg; Calf circumference = 30cm; 400m walk test = 5min 20sec
    Sarcopenia diagnosed using EWGSOP2 diagnostic criteria
- Nutrition therapy
  - Educated on high protein high energy diet and commenced on oral nutrition supplements prior to treatment.
  - Recommended for prophylactic PEG insertion.
  - Enteral nutrition commenced via PEG during week 5 of chemo-radiotherapy due to worsening nutrition impact symptoms (dysphagia, odynophagia, dysgeusia).
  - Recommenced oral diet 4 weeks post treatment. Over a period of 2 months Bob progressed from liquid diet to minced/moist diet and continues on a soft diet due to ongoing xerostomia.
  - Enteral nutrition was weaned as oral intake increased. PEG removed at 4 months post treatment.

	• Exercise therapy
	  - Weekly 45-minute 1-1 exercise physiology sessions during induction chemotherapy comprising progressive resistance exercise for major muscle groups at moderate intensity. With additional home-based exercises 2 days per week comprising bodyweight resistance exercise (e.g. squats, wall push-ups)
	  - Weekly 1 hour group exercise sessions delivered at treating cancer centre by exercise physiologist during chemo-radiotherapy. Personalised resistance exercise prescription targeting all major muscle groups at moderate intensity.
	  - Education and exercise modification following PEG insertion.
	• Multidisciplinary care
	  - Speech pathology involved early to manage dysphagia.
	• Transition of care
	  - Review by dietitian and physiotherapist at treatment centre during induction chemotherapy.
	  - Weekly outpatient dietitian and exercise physiology (group exercise) review at treatment centre during chemo-radiotherapy.
	  - Handover to local rural dietitian in final weeks of treatment to enable supply of nutrition support at home. Consult with patient (in person) and rural dietitian (via telehealth) prior to returning home to introduce patient and provide comprehensive handover.
	  - Fortnightly reviews with rural dietitian post chemo-radiotherapy to assist with progression of oral diet and weaning of enteral nutrition. Resume weekly sessions with rural exercise physiologist, transitioning from 1-1 exercise therapy to ongoing group exercise program. Rural clinicians contact treatment centre dietitian with any concerns.
	  - Bob attended appointments with treatment centre dietitian (at the same time as oncology reviews) at 4 weeks and 3 months post treatment. Rural and treatment centre dietitians provided handovers pre and post appointments to ensure optimal care provision.

WHO delivered the care? **(Actor)**	• Malnutrition screening – *Clinical nurse consultant and inpatient nursing staff* • Nutrition assessment and intervention – *Head & Neck dietitian at treating cancer center and rural dietitian* • Physical assessment and intervention – Exercise physiologist at treating cancer centre and community exercise physiologist. • Symptom management – *medical staff, dietitian, speech pathologist*
WHERE was care delivered? **(Context)**	Inpatient and outpatient setting at treating cancer centre Dietetics outpatient clinic at rural hospital Private exercise physiology clinic in rural NSW
WHO received care? **(Target)**	Adult patient (≥18 years) undergoing treatment for oropharyngeal cancer

WHEN was care provided? **(Time)**	• Malnutrition screening – *at treatment planning* • Nutrition assessment – *2 months prior to treatment, commencement and end of treatment, 4 weeks and 3 months post treatment.* • Physical assessment - *at treatment planning and pre/post outpatient exercise physiologist program.* • Nutrition review - *during inpatient admission, weekly during chemo-radiation and at regular intervals until 3 months post treatment* • Exercise physiology review - *weekly during chemoradiation (outpatient), and following treatment completion (community).*
OUTCOMES	The patient was identified early via malnutrition screening and referred to the dietitian in a timely manner. Early nutrition and exercise physiology intervention prevented further weight and muscle loss and improved nutrition and functional status prior to commencing treatment. The early involvement of the rural dietitian prior to Bob returning home, ensured he had sufficient and appropriate supplies. It also enabled Bob to receive care closer to home to reduce the travel and financial toxicity burdens. Establishing a shared care arrangement between the treatment centre and rural hospital clinicians provided opportunities for professional support and service improvement.