

Editorials

Malnutrition screening in outpatients receiving hyperbaric oxygen therapy: an opportunity for improvement?

Outpatients who receive hyperbaric oxygen treatment (HBOT) may represent a group at significant risk of malnutrition owing to the underlying conditions that are often treated with HBOT (e.g., non-healing diabetic wounds and radiation-induced skin injury). In this issue, See and colleagues provide new, preliminary evidence of the prevalence of malnutrition in a small group of HBOT outpatients treated in an Australian hospital, reporting that approximately one-third of patients receiving HBOT were at risk of malnutrition.¹

To our knowledge, routine malnutrition screening is not available in HBOT centres providing outpatient treatment, which may be a key gap in the nutrition care of these patients. Malnutrition screening was developed to identify those at risk of malnutrition across the healthcare continuum.² In the outpatient setting, it is recommended that patients are screened at their first clinic appointment and that screening is repeated when there is clinical concern.² Malnutrition screening tools are designed to be quick and simple to complete by trained healthcare staff and include questions relating to appetite, oral intake and recent weight loss.^{2,3} The early identification of patients at risk of malnutrition using validated screening tools enables the appropriate and timely referral of patients to dietetic services for assessment and treatment.^{2,3}

Why might malnutrition screening in HBOT services be important? It is well documented that the consequences of malnutrition are systemic, with increased morbidity and mortality attributed to malnutrition.⁴ Beyond the detrimental impact of malnutrition to the individual, malnutrition also has significant economic ramifications, with medical costs significantly higher in severely malnourished compared to well-nourished patients.⁵ Of particular relevance, malnutrition is associated with impaired and prolonged wound healing.⁶ This may influence the effectiveness and success of HBOT treatment, although studies in the area of HBOT and concurrent nutrition therapy are lacking.

Furthermore, there are no reliable markers of nutrition status that are easily obtainable in the healthcare setting. In the past, prealbumin (transthyretin) and albumin have been used as surrogate markers of nutritional status.⁴ However, these serum proteins are acute-phase proteins and, therefore, are reduced during acute inflammation and infection, making them unreliable indicators of nutrition status.^{4,6} Transferrin, retinol binding protein and C-reactive protein are similarly not recommended as markers of nutrition status and malnutrition.^{4,6} Therefore, the implementation of malnutrition screening may be the most practical and

validated method of identifying patients who would benefit from a comprehensive assessment of their nutrition status and provision of nutrition support in the HBOT setting.

The assessment of nutrition status involves the collective evaluation of anthropometric data, biochemical markers, clinical symptoms impacting on nutrition (e.g., nausea) and oral intake. Tools such as the subjective global assessment have been developed and validated to assess nutrition status and diagnose malnutrition by trained staff.⁴ In contrast to other outpatient services, HBOT presents a unique opportunity to complete both malnutrition screening and engage a relevant dietetic service for nutrition assessment early in the course of treatment. The frequent contact with outpatients would also lend itself well to group nutrition education sessions to address important nutrition information related to wound healing.

Although there is a paucity of data to support the use of malnutrition screening and dietetic assessments in HBOT, current best practice guidelines recommend these services in outpatient settings.² The implementation of routine malnutrition screening and referral processes to dietetic services warrants consideration in the HBOT outpatient setting. If going down this path, careful consideration of available resources, how referral systems can be incorporated into current procedures as well as partnership with dietetic departments is integral. In the interim, the referral of patients to dietetic departments who are suspected to be at risk of poor wound healing due to nutrition factors and those failing treatment should be considered by treating hyperbaric physicians. Although further research is required to assess the effectiveness of malnutrition screening and nutrition intervention in the HBOT outpatient population, the data by See and colleagues provides an important starting point in unpacking malnutrition risk in this population.

References

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