

Characterising Enteral Nutrition Dependence in People with Cystic Fibrosis in an Era of Modulator Therapy



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Introduction

People with cystic fibrosis (CF) are at a greater susceptibility to developing a multitude of nutrition-related conditions⁽¹⁻³⁾. Historically, malnutrition and poor nutrition status have been inherent among individuals with CF, largely due to increased energy expenditure and requirements and/or oral intake insufficient to meet the energy demands⁽⁴⁻⁵⁾. Enteral tube feeding (ETF) played a primary role in the support and optimisation of nutrition status among individuals with CF ^(1,5-8). The introduction of highly effective modulator therapies in the treatment of CF has been associated with improvements in nutritional status^(2-3,9-13). A subsequent reduction in ETF dependency has been anecdotally observed in clinical practice. There is limited research to date on the effect of this reduction on anthropometry and clinical status in people with CF.

Aims & Objectives

To classify and identify trends in the nutritional and clinical status of CF patients who use or have discontinued ETF since starting modulator therapy and compare this to pre- modulator data.

Research Design

This retrospective single-site characterisation included 32 participants; 16 participants whose enteral feeding tubes (EFT) had been removed, and 16 participants whose EFTs were retained [5 retained and not in-use, 11 retained and in-use]. Demographic, clinical (FEV1), anthropometric data (weight, height, BMI) and data relating to ETF and stoma sites was collected from medical and dietetic records at various time points. Descriptive statistics was conducted using Microsoft Excel.

Results

Median lung function decreased among those who removed their EFT, and remained stable among those who retained their EFT.

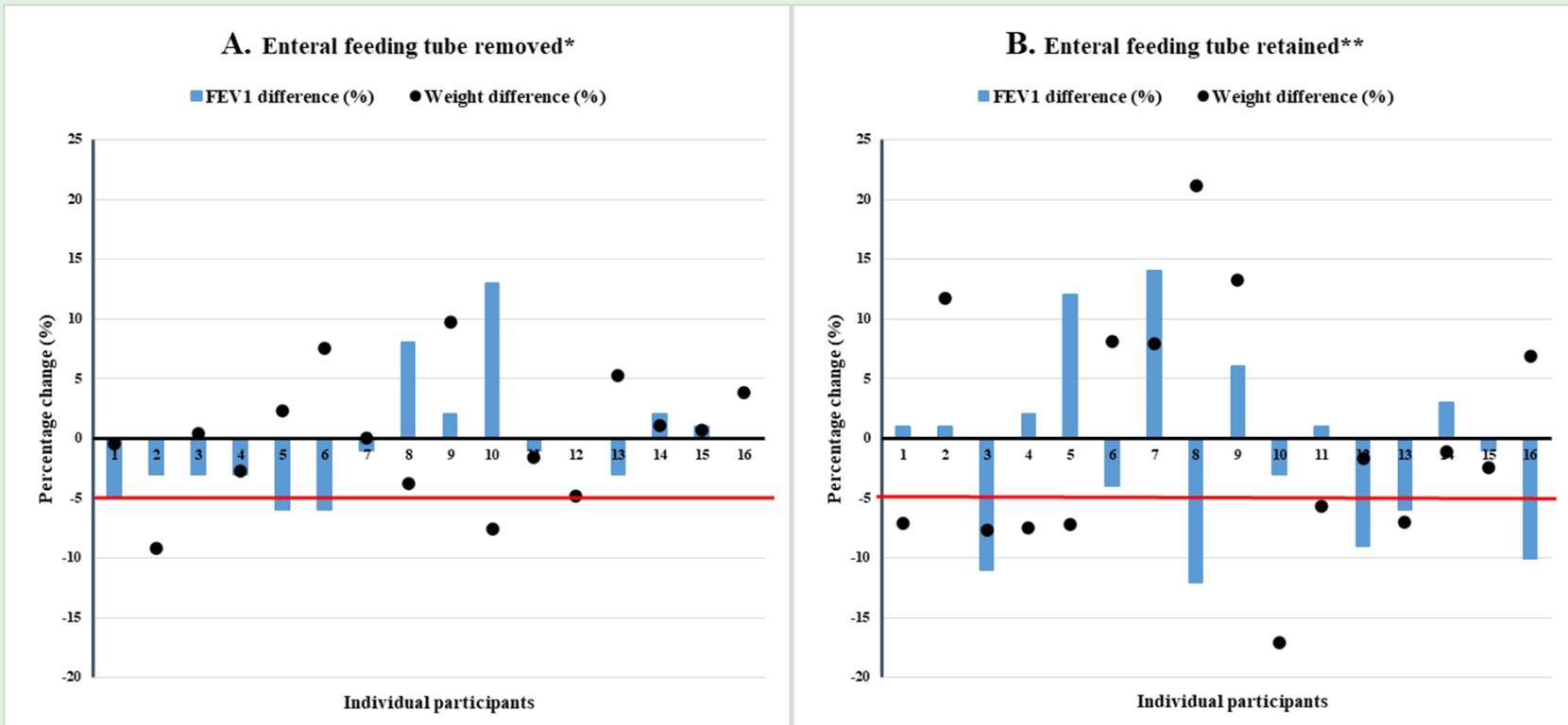


Figure 3A. & 3B. demonstrates individual percentage changes in body weight and lung function among those who removed their EFT and those who retained their EFT

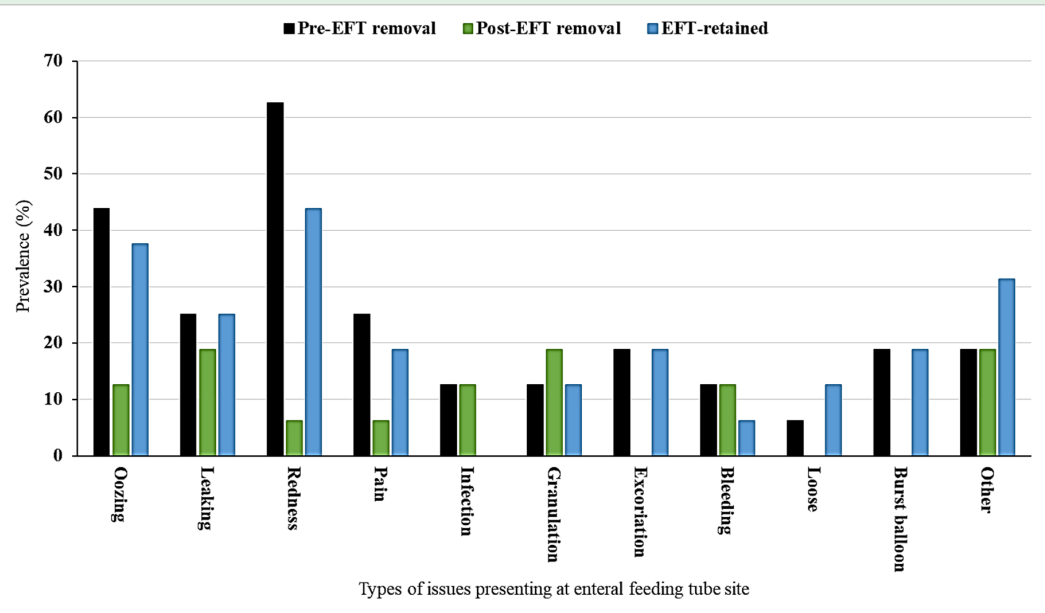


Figure 4. Prior to removal, stoma site issues were more prevalent among those who went onto remove their tubes compared to those who retained their tubes. The opposite was noted upon removal.

Conclusion & Recommendations for Clinical Practice

This investigation identified preliminary trends in lung function, anthropometry, and stoma issues among the CF population who removed their enteral feeding tubes alongside those who retained their tubes. The findings can provide clinicians with informed insight and recommendations to assist clinical practice among the CF population considering enteral feeding tube removal (Table 2). It is evident that individualised patient management should remain the forefront of dietetic practice to optimise nutrition and ETF care among the CF population. Future research examining long-term characterisation on a larger CF population, is recommended to guide clinical practice on tube-removal among individuals with CF.

Key findings	Recommendations for clinical practice
Lung function Reductions in lung-function were experienced post EFT removal	Lung-function should be taken into consideration as part of the tube removal decision and assessed using a multi-disciplinary approach. The patient should be informed of potential decline in lung-function post-removal.
Body weight and BMI An increase in median body weight was experienced post EFT removal. However, some individuals experienced reductions in body weight post-removal despite positive trajectories pre-removal. An increase in median body weight was experienced by those who retained their EFT	Pre-removal weight trajectories should not be used in isolation as a reliable predictor of post tube removal weight trends. The patient should be informed of the potential decline in body weight post-removal and the likelihood of requiring increased support of oral nutritional supplements. Frequent evaluations on the effectiveness of current, dependent ETF regimens to optimise nutrition status
Enteral nutrition The practice of weaning EN regimens pre-tube removal did not positively influence body weight or BMI post-removal	Consider complete cessation of ETF, if appropriate, rather than prolonged weaning of EN regimens prior to removal.
Enteral feeding tube and removal Retaining non-active EFTs >12 months following successful cessation of EN did not positively influence body weight or BMI post-removal	Consider avoiding prolonged retention of non-active EFT (i.e., >12 months) among individuals who have demonstrated successful cessation of EN regimens
Stoma site issues Pre-removal, stoma site issues were more prevalent among those who went onto remove their tubes compared to those who retained their tubes. Post-removal individuals with CFRD demonstrated increased prevalence in stoma site issue presentation.	Annual reviews of stoma sites should be provided by a gastroenterologist. If a burdensome stoma site is the primary motivator for tube removal, consideration should be paid toward the patient's ability to clinically support a successful removal. Endoscopic removal of EFTs is preferable among those at an increased risk for developing post-removal stoma site issues (e.g., CFRD). Patients should be informed of their potential increased risk of stoma site issue development.

Table 1. Key findings and recommendations for clinical practice

References

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