The effect of early and late stoma closure on nutritional outcome at 12 months of age in children with meconium ileus secondary to cystic fibrosis
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Introduction: A small but significant number of infants with cystic fibrosis (CF) require neonatal surgery to relieve bowel obstruction from meconium ileus (MI). This often results in stoma formation to encourage feeding, weight gain and recycling of stoma output. We have undertaken a retrospective review to determine the impact of time to stoma closure on nutritional status at 12 months of age.

Methods: A retrospective case note review of patients currently attending the Royal Liverpool Children’s Hospital Regional CF Clinic (n=282). We recorded duration of stoma and weight centile at three stages: stoma formation, closure, and at 12 month review. Complications of stoma and hospital stay were also noted. Stoma duration less than 8 weeks was classed as early closure (E) and more than 8 weeks as late (L). The change in weight centile at 12 month review was used as a measure of nutritional outcome.

Results: 48 children presented with MI (1990–2007); data were available for 26 included in the study. The early and late closure groups consisted of 19 (median time to closure 5 weeks) and 7 patients (13 weeks) respectively. 63% of the early closure group showed an increased weight centile at 12 months compared to 57% of the late group. Stoma duration did not affect post-closure hospital stay. Late stoma closure was associated with increased cases of post closure obstruction (E vs L; 15.8% vs 57.1%).

Conclusion: This review suggests that the time to stoma closure does not impact significantly on subsequent nutritional status. More studies are needed to determine the optimal post-operative management in this challenging group of children.

Impact of aggressive nutritional intervention on early and late acquisition of CFRD in an adult population?
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Introduction: Pre and post diabetic decline is a feature of cystic fibrosis-related diabetes (CFRD). We examined the nutritional and clinical impact of aggressive nutritional intervention on early and late acquisition of CFRD in a screened adult population.

Method: We report 17 patients with CFRD1 (continued growth at entry) v 31 patients CFRD2 (completed growth), each matched to control populations for age, sex, pseudomonas status. Mean age at diagnosis (CFRD1) 21.9±3.7 yrs v (CFRD2) 28.3±5.6 yrs. Nutritional intervention was initiated in agreement with patients, according to UK consensus guidelines. Nutritional and clinical indices were recorded annually from 6yrs pre to 2yrs post diagnosis and analysed using repeated measures ANOVA.

Results: In the 6yrs to diagnosis, BMI (CFRD1) remained consistently below CFRD2 [F(1,44)=15, p<0.001]. No differences in FEV1 [F(6,33)=21, p=0.3] or iv antibiotic therapy [F(1,38)=0.2, p=0.9] were evident, but FEV1 deviated increasingly between the younger and older group over time [F(6,33)=3, p=0.009]. A rapid decline in FEV1 (CFRD1) at 1 yr pre-diagnosis (46.9% to 41.5% diff = -5.4, CI 1.6 to 6.5, p=0.001). stabilized on insulin therapy. FEV1 (CFRD2) remained stable as a % of control values throughout the pre-diabetic period. Enteral feeding intensified for both groups and was significantly greater in CFRD1 at diagnosis [65%±32%, OR 4.5, CI 1.1–19.3, p=0.02].

Conclusion: Aggressive nutritional intervention prevents nutritional decline in older but not younger adults with CFRD. Early acquisition of CFRD results in significant deviation in lung function and greater rate of pulmonary decline in younger adults.