primary studies - published RCT

Evidence on improved outcomes with early diagnosis of cystic fibrosis through neonatal screening: enough is enough!.

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Study design (if review, criteria of inclusion for studies)

randomized controlled trial with unique unblinding/surveillance

Participants

Wisconsin Cystic Fibrosis Neonatal Screening Project. The sub-groups of patients with CF included in this report consist of enrolled subjects who were diagnosed through NBS and did not have MI, compared with those who were randomized to the control group and diagnosed because of signs or symptoms other than MI or because of a positive family history

Interventions

similar treatment after assignment to an early diagnosis (screened) group or to a control group

Outcome measures

Outcomes studied at diagnosis and longitudinally included measures of nutritional status and lung disease

Main results

Assessment of patients with CF without meconium ileus who had pancreatic insufficiency revealed marked differences in age and condition at diagnosis--screened patients had significantly better length/height, weight, and head circumference. Follow-up evaluation for 16 years showed that height and weight differences persisted long term. Although screened patients had better chest x-ray scores at diagnosis, our trial suggests that the effects of confounders such as Pseudomonas aeruginosa infections led to deterioration of their scores after 10 years, but there were no significant differences between the 2 CF/pancreatic insufficiency subgroups

Authors' conclusions

Early diagnosis of CF and aggressive nutritional management can prevent malnutrition and growth failure. Although CF NBS provides a potential opportunity for better pulmonary outcomes, it appears that other factors can predominate over time in pulmonary prognosis. Overall, the Wisconsin trial is positive and provides enough evidence for routine CF NBS.

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See also

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Keywords

Bacterial Infections; Child; Infection; Neonatal Screening; Newborn; non pharmacological intervention - diagn; Nutrition Disorders; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections; screening; diagnostic procedures;