primary studies - published, non RCT

Vaccination of cystic fibrosis patients against Pseudomonas aeruginosa reduces the proportion of patients infected and delays time to infection.

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

Survey, longitudinal prospective cohort + nested case-control study. Vaccinated patients and controls were attending a single CF clinic and received the same clinical management throughout the study period. Follow-up of 26 of these patients from 1989 to 2001.

Participants

In 1989-1990, 30 young children with CF, mean age 7 years, with no prior history of infection with P. aeruginosa, were vaccinated against P. aeruginosa with a polyvalent conjugate vaccine. Comparisons were made with a CF patient control group matched for gender, age and, where possible, genetic mutation.

Interventions

The patients were given yearly vaccine boosters.

Outcome measures

Main outcomes were time to infection, proportion of patients infected, development of P. aeruginosa mucoid phenotype, lung function and body weight.

Main results

The time to infection with P. aeruginosa was longer in the vaccination group than in the control group and fewer vaccinated patients than controls became chronically infected (32% versus 72%; P < 0.001). The proportion of mucoid infections was higher in the control group (44%) than in the vaccinated group (25%). Patients >/=18 years of age at the end of the study had a lower mean forced expiratory volume at 1 s (FEV1) than did those 13-17 years of age, but this difference was small in the vaccinated group (73.6% versus 83.7%) compared with the controls (48.0% versus 78.7%). In the >/=18 year age category the mean FEV1% at 10 years was 73.6% (vaccinated) and 48.0% (controls) (P

Authors' conclusions

Regular vaccination of young CF patients for a period of 10 years with a polyvalent conjugate vaccine reduced the frequency of chronic infection with P. aeruginosa. This was associated with better preservation of lung function. Vaccinated patients gained more weight during the study period, a possible indication of an improved overall health status.

http://www.mrw.interscience.wiley.com/cochrane/clcentral/articles/872/CN-00496872/frame.html

See also

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Keywords

Adolescent; Adult; Bacterial Infections; Child; Immunization; Infection; non pharmacological intervention - diagn; pharmacological_intervention; Pneumonia; Pseudomonas aeruginosa; Pseudomonas; Respiratory Tract Diseases; Respiratory Tract Infections;