The patients with chronic respiratory infection will have an increased incidence of Pseudomonas infections. Respiratory infection in diffuse panbronchiolitis is frequently severe and follows a smoldering course punctuated by acute exacerbations of bronchitis or pneumonia baseline of chronic productive cough and bacterial colonization. Pseudomonas organisms are seldom eradicated from the sputa, regardless of the antibiotic therapy regimen. Because antibiotics have not solved Pseudomonas infection, the use of immune prophylaxis against Pseudomonas remains relevant. Active immunization of susceptible patients with Pseudomonas vaccine has been advocated as a possible means of preventing of improving the prognosis of Pseudomonas infection.

MATERIALS AND METHODS

Between 1972 and 1980, 21 patients hospitalized with chronic respiratory infection were given Pseudomonas vaccines. Patients consisted of 19 diffuse panbronchiolitis and 2 bronchiectasis, using multi component vaccines prepared from a common antigen (OEP), protease, elastase and exotoxin toxoids of Pseudomonas aeruginosa by Homma.

Course of vaccination was defined as subdermal injections of vaccines, given twice a month.

Patients received doses on a schedule of 10 mcg, if side effects did not occur, necessitating use of larger doses 50 mcg.

Antibody-titer for Pseudomonas aeruginosa in the serum has been measured by passive hemagglutination test using OEP (original endotoxin protein-Homma), elastase, protease as coated antigen.

RESULTS

A total of 21 patients consisting of 19 with diffuse panbronchiolitis and 2 with bronchiectasis were vaccinated. Of 10 patients with Pseudomonas infection after vaccination, 4 patients died and 3 patients discontinued vaccination. The survival was significantly longer in the vaccinated group than in control patients.

Of 11 patients with no history of Pseudomonas infection, after vaccination 5 patients had Pseudomonas infection. Vaccination resulted in no significant prophylactic effect in patients with no history of Pseudomonas infection. Serum OEP-HA, elastase-HA, protease-HA antibody titers rose well above the titers before immunization in 7 patients after vaccination.

The Pseudomonas vaccines elicited adverse reaction in some patients. Acute anaphylaxis did not occur in any patient. Most reactions consisted of local pain and induration at the injection site.

The results of this study suggest that vaccination will result in an increase probability of survival.