

Does Disodium Cromoglycate Prevent Exacerbation of Farmer's Lung?

SINIKKA MÖNKÄRE, TARI HAAHTELA, VESA VILKKA and HANNU JOKELA

Dept. of Pulmonary Diseases, Tiuru Hospital, Tiuruniemi, Finland

Accepted for publication 5 November 1981

Farmer's lung is a type of allergic alveolitis which results from the inhalation of mouldy hay or straw. The disease can be prevented by avoiding the exposure of harmful antigens. In Finland, 3-4 % of the farming population have experienced symptoms of this disease (2). About two-thirds of those who have been diagnosed as having farmer's lung continue their work after recovery. Effective measures to prevent exacerbation of farmer's lung, other than leaving the occupation for good, are needed.

We report here the results of a controlled study of the effect of disodium cromoglycate (DSCG) in the prophylactic treatment of farmer's lung.

PATIENTS, METHODS AND RESULTS

The study was carried out in January-April 1980. Thirty patients, 11 men and 19 women (mean age 48 years) were included. They had suffered from episodes of farmer's lung during 1978 or 1979 and had been hospitalized at that time. The diagnosis was based on criteria presented elsewhere (3). Precipitating antibodies against *Thermoactinomyces vulgaris*, *Micropolyspora faeni* or *Aspergillus* sp. were found in 83 % of the subjects. Positive immediate skin prick test reactions to common allergens were found in 10 % of them. All the patients were free of symptoms at the beginning of the trial and continued with cattle feeding and farming. They were randomly allocated into two groups: either 6 weeks' treatment with DSCG followed

by 6 weeks with placebo, or vice versa. Two capsules of pelletised DSCG without lactose were inhaled four times a day (40 mg $\times$ 4). The placebo capsules contained lactose powder. The design of the study was double-blind. The patients were examined before the trial, at the crossover point and at the end of the trial. Auscultatory findings, laboratory data (S-SR, S-leuc, PaO₂), chest X-ray and lung function (dynamic spirometry and diffusion capacity of carbon monoxide) were recorded at every visit. The patients kept diaries in which symptoms such as dyspnoea, cough, mucus flow, joint pains and fever were recorded daily on a scale 0 to 5. Peak expiratory flow values (mini-Wright Peak Flow Meter) were recorded every morning and evening. Hours spent doing work in cowshed and the use of face-masks were also recorded.

Twenty-eight patients completed the trial without symptoms of farmer's lung. In these patients no significant differences were observed between DSCG and placebo treatments in diary recordings, clinical assessments, lung function tests or laboratory data. Two patients interrupted the trial, both during the DSCG period.

A 37-year-old female farmer experienced fever, progressive dyspnoea and coughing during the last 2 weeks of the first 6-week period while using DSCG. Chest X-ray showed acute alveolite-like changes, and her lung diffusion capacity was lowered from 75 % to 54 % (values from predictive). She received cortico-

steroids for 1 month and was asymptomatic after the treatment. The other patient, a 48-year-old farmer, did well during the first 6-week placebo period, but the symptoms became exacerbated 2 weeks after the beginning of the DSCG period and the trial was interrupted.

DISCUSSION

Regularly inhaled pelletised DSCG did not prevent exacerbation of farmer's lung disease in two patients. These patients had had an episode of farmer's lung 4 to 16 months before the trial began. Twenty-eight patients had no significant differences in respiratory symptoms during a 12-week period while using placebo or DSCG.

Pepys et al. (4) observed that DSCG inhibited respiratory symptoms in patients with bird fancier's lung during an allergen inhalation test. Obviously, inhaled pelletised DSCG cannot reach the most peripheral airways and alveoli, which are the main site of the inflammatory reaction in allergic alveolitis. However, according to our recent observations (1) the central airways are also affected, at least in some pa-

tients. DSCG might prevent symptoms originating from the central airways in such patients.

ACKNOWLEDGEMENTS

We thank Kymen Terveiden Turva and Viipurin Tuberkuloosisäätiö for financial support and Fisons Ltd for providing the DSCG and placebo capsules.

REFERENCES

1. Heino, M., Mönkäre, S., Haahtela, T. & Laitinen, L. A.: An electron-microscopic study of the airways in patients with farmer's lung. *Eur. J. Respir. Dis.* 63, 52–61, 1982.
2. Katila, M.-L.: Respiratory disease in a farming population: a sero-epidemiological survey of farmer's lung and chronic nonspecific lung disease among dairy farmers in eastern Finland. Thesis 1979, Kuopio, Finland.
3. Mönkäre, S., Haahtela, T., Ikonen, M. & Laitinen, L. A.: Bronchial hyperreactivity to inhaled histamine in patients with farmer's lung. *Lung* 159, 145–151, 1981.
4. Pepys, J., Hargreave, F. E., Chan, M. & McCarthy, D. S.: Inhibitory effects of disodium cromoglycate (Intal) on allergen inhalation test. *Lancet* 2, 134–137, 1968.

Address:

Dr. Tari Haahtela
Dept. of Pulmonary Diseases
Tiuru Hospital
SF-55330 Tiuruniemi
Finland

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.