Influenza Vaccine and Long-term Protection

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The employees of an oil company in southern England participated in controlled trials of influenza vaccine between 1963 and 1965. The incidence of influenza in the same population during the short epidemic of the winter 1967/68 was studied. There was no evidence of any long-term protection from the vaccine.

Controlled trials of influenza vaccine¹ were conducted among employees of The British Petroleum Company in the winters of 1963/64 and 1964/65. The results did not support the efficacy of the vaccine and its use was abandoned (Cook, 1965). The protective effects of the vaccine, if any, would be expected to be of short duration and of the order of one year. It was decided to conduct a retrospective study to test this point.

Methods

Reference to the records made it possible to send questionnaires concerning the incidence of influenza to 501 persons. The design and use of the questionnaire was similar to that of the earlier trials. After excluding a very small group, because of residence overseas, or because further influenza vaccine had been given since 1964, 363 or 72% of the original number of questionnaires were available for study. They were classified as follows:

1. those who, by chance, received the inert control injection in both years, 1963 and 1964;
2. those who received the vaccine in the first year and the control substance in the second year;
3. those who received control substance in the first year and vaccine in the second year;
4. those who received vaccine on both occasions.

Results

The total number in each of the groups is close

TABLE
RESULTS BY GROUPS FROM REPLIES TO QUESTIONNAIRES

Group	No. of Questionnaires Sent	No. of Questionnaires Returned	%	No. of Cases of Influenza	%
1 Control + control	43	28	65	4	14
2 Vaccine + control	108	82	76	14	17
3 Control + vaccine	103	74	73	8	11
4 Vaccine + vaccine	247	179	72	30	17
Total	501	363	72	56	15

to expectation because approximately 30% of the volunteers in each trial received the control substance. The results are shown in the Table. If the vaccine possessed any lasting protective effect, the incidence of influenza should have decreased from group 1 to group 4. In fact, there is no significant difference between the groups and no support for any long-term protective effect from the vaccine.

REFERENCES

- Cook, P. B. (1965). Controlled trial of influenza vaccine. *Brit. J. industr. Med.*, **22**, 217-219.

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¹Klugen-Beecham Research Laboratories Ltd.