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VACCINATION IN GLASGOW DOCKS

BY

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The following is an account of an investigation into the potency of vaccine lymph and the effect of vaccination on the sickness and industrial accident rates among Glasgow dock workers.

As a result of small-pox of a severe type occurring in Glasgow, the medical officer of health, on June 29, 1942, issued an appeal for mass vaccination of the city's population. Since the disease had presumably entered through the Port it was felt that every endeavour should be made to have dock workers vaccinated at once. At all times close co-operation is maintained between the city's health services and the Port Authority (Clyde Navigation Trust), so that the drawing-up and completion of the scheme here outlined naturally fell to be dealt with by us. The scheme was approved by the medical officer of health, the Clyde Navigation Trust, and the port regional director.

Outline of Scheme

The first essential was to carry out vaccination promptly and with the minimum interference with the normal working of the harbour; secondly came the necessity of informing the dock workers of the need for vaccination; and, thirdly, conveniently situated vaccination centres had to be established in the Docks.

It was decided to utilize the existing gas-cleansing stations in each dock as vaccination centres and, on the day before the opening of the centres, to make use of a broadcasting van to explain the need for vaccination and to announce the time and place for workers to attend. This scheme answered extremely well, and over 60% of the workers in the Port of Glasgow availed themselves of the opportunity. The medical and nursing staff employed were directed to pay particular attention to the technique of vaccination as outlined by Sir Alexander Macgregor in his communication.

Result of Vaccination

Of the lymph used 95% was supplied by the Government Lymph Establishment, the remaining 5% being from other manufacturers. Our impression was that the Government lymph was somewhat more potent, although all the other varieties gave satisfactory reactions. The follow-up of many of the workers was far from easy owing to the constant changes of working shifts and the movement of gangs of dockers from one dock to another as ships arrived and departed, and we, of necessity, had to satisfy ourselves with records of 1,000 out

Table showing Results in 1,000 Cases

	A (Severe)	B (Normal)	C (Immune)	D (No Reaction)
No. of cases ..	121	719	102	58
Percentage ..	12	72	10	6

of the total vaccinated. The accompanying table shows under four headings the results we obtained. (A) Severe reaction evidenced by constitutional upset, enlarged axillary glands, fairly extensive localized reaction, with inflammation extending

from the pock sometimes up to the shoulder and down to the forearm. (B) A normal vaccination pock with little or no constitutional upset. (C) An immune reaction sometimes described as the papule of immunity of Pirquet. (D) No reaction.

From the table it is evident that the lymph used was particularly potent, 84% of the cases showing severe or normal vaccinations and a further 10% an immune reaction due in practically every instance to a previous successful vaccination. The 58 cases which showed no reaction were all revaccinated, when only two showed an immune reaction.

Effects on Industry

We feared that mass vaccination would interfere with the normal work in the harbour and thus slow down the national effort, but this has not been so. In fact, less than 3% of all classes of workers were off work on account of vaccination. The maximum period of incapacity was one week, the great majority being back at work within 48 hours. Scrutiny of the sickness rate among dockers, office staff, and Clyde Trust employees for the 28 days subsequent to vaccination showed no increase over the normal rate prevailing at this time of year.

The industrial accident rate has also shown no increase above the normal, despite the fact that many crane drivers, capstanmen, and winchmen were vaccinated successfully, and were plucky enough to continue at work despite very sore arms.

Comments

A good previous vaccination scar was no guarantee of immunity. For example, one female who had five large foveated scars resulting from vaccination in infancy, and subsequently in 1921, had a very severe reaction.

Stout persons generally had much more severe local reactions than thin persons.

Elderly persons often showed severe reactions even although previously vaccinated.

Many suffered from a coryza, sometimes associated with sore throat, of about three days' duration from the 8th to the 11th day after vaccination. In no case was the coryza severe enough to cause incapacity for work.

Women reacted more severely than men in the same age groups.

We found that vaccination of the lower limbs caused much more discomfort than vaccination of the upper limbs.

Nine cases in our series showed a post-vaccinial rash; four of these were urticarial in type and associated with previous acne or scabies, three morbilliform, and two scarlatiniform. They all occurred between the 9th and the 10th day following vaccination and disappeared within 48 hours. We noted no case of papular urticaria, nor did any of the dock workers develop pustular rashes resembling small-pox. Neither did we see any case of post-vaccinial encephalitis nor any person who developed nervous symptoms following vaccination. Several cases showed a somewhat delayed local reaction to vaccination.

This investigation was made possible only by the willing co-operation of all classes of dock workers, and we wish to thank the medical officer of health, the general manager of the Clyde Navigation Trust, and the port regional director for permission to print this short review.

The Chadwick Trustees have arranged for the following public lectures to be given on Tuesdays at 2.30 p.m.: Oct. 6, at Royal Society of Tropical Medicine, 26, Portland Place, W., Sir Leonard Hill, F.R.S., "The Interrelation of Clothing and Shortage of Fuel in Matters of Health"; Oct. 27, at Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., Mr. W. T. Creswell, K.C., "The Forensic Aspects of Wartime Public Health Legislation"; Nov. 10, at London School of Hygiene and Tropical Medicine, Keppel Street, W.C., Bossom Lecture by Miss Jocelyn Adburgham, "Land Settlement—Its Sanitary and Architectural Aspects and After-war Possibilities"; Nov. 24, at Westminster Hospital Medical School, Horseferry Road, S.W., Malcolm Morris Memorial Lecture by Sir Arthur MacNalty, "The Prevention of Tuberculosis in Peace and War"; Dec. 8, at Royal Society of Tropical Medicine, Dr. W. Norwood East, "The Differentiation, Prevention, and Treatment of Anti-social Behaviour Disorders." Admission to the lectures is free, and further particulars can be had from the secretary, Chadwick Trust, 204, Abbey House, Westminster, S.W.1.