INTERNATIONAL COOPERATION IN THE SMALLPOX ERADICATION PROGRAMME

by

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In this age of jet flight, a disease eradication programme demands close international cooperation and the smallpox eradication programme, as one, must be considered in the context of continents, not in terms of individual countries.

Two outbreaks of smallpox in a township adjacent to the Burma - Pakistan border, one each in 1968 and 1969, vividly illustrated the need for such coordination.

Outbreak in 1968

Between January and August, 1968, an outbreak occurred in Akyab District, Burma, resulting in 181 cases with 37 deaths; 14 villages were infected.

Except for 4 cases which occurred in an adjacent township, all cases occurred in 13 villages of Maungdaw Township in Akyab District. This township is situated immediately adjacent to high incidence areas in East Pakistan; the infected villages lie within 5 miles of the border. There is free movement of the population across the border.

The source of infection was traced to Pakistani visitors from the village of Yongzonipara, a mile away from the first infected village of Samakara on the opposite side of the river. Persons from this village which was experiencing smallpox, visited the first Burmese family which was afflicted. Five children in this family subsequently developed smallpox and three died. A five year old boy was the index case for the whole outbreak which began on 17 January. Cases occurred sporadically until April when the incidence increased sharply. It reached a peak during June when 78 cases were recorded. The outbreak was finally brought under control in August. The last case was recorded during the week ending 17 August.

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Of the total of 181 cases, 155 (85%) were under 10 years of age and 32 of the 37 deaths were among children under 10 years of age.

Age	No. of Cases	No. of Deaths
< 1	25	11
1 - 4	86	17
5 - 9	44	4
10 - 14	13	2
15+	13	3
	181	37

The over-all case fatality rate was 20% but, among children less than one year of age, 44% of those contracting smallpox died.

All except two of the fatal cases were examined for vaccination scars. None showed scars of primary vaccination. Of the 144 non-fatal cases, eight had primary vaccination scars. This in a small way embodies the adoption of primary vaccination scar surveys in assessment.

Many households recorded multiple cases attesting to the frequency of spread under circumstances of close contact.

No. of Cases in Families	No. of Families
1	64
2	13
3	15
4	4
5	2
6	1
7	2

In November and December 1967, 1 359 cases of smallpox with 667 deaths had occurred in East Pakistan and in each month from January to April 1968, over 1 000 cases were reported. During this period, 764 cases with 402 deaths occurred in Chittagong District which lies just across the border.

The occurrence of smallpox in 14 villages reflects a poor vaccination coverage in the area. During the mass vaccination programme in Maungdaw and Buthidaung Townships in 1963, only 66% of the population were vaccinated owing to non-acceptance of vaccination by the people and during the first 3 years of the smallpox eradication programme (1963-1965), only 52% of the population in Akyab District as a whole were vaccinated.

Even during the outbreak the people, especially womenfolk, were reluctant to be vaccinated. A great effort had to be made to convince them of the effectiveness of vaccination. Surprisingly enough, acceptance turned out to be very satisfactory and finally, over 90% were vaccinated. A total of 1 912 primary vaccinations and 5 173 revaccinations were given.

Outbreak in 1969

A smaller outbreak started during the week ending 1 March 1969 and was brought under control during the week ending 5 April. There were 68 cases including 11 deaths.

Age	No. of Cases	No. of Deaths
< 1	8	5
1 - 4	14	2
5 - 9	20	1
10 - 14	16	1
15+	10	2
	68	11

The majority of cases were again less than 10 years of age. Only 3 villages were infected. These villages were not involved in the previous outbreak.

These outbreaks clearly illustrated the need for international coordination of surveillance and containment measures, as well as the need for continuing and improving surveillance and containment programmes in countries bordering endemic areas.

A few suggestions therefore seem appropriate.

Suggestions

(1) Exchange of information by telegram between neighbouring countries regarding outbreaks of smallpox should be encouraged, especially outbreaks near the border. Telegraphic information should provide salient epidemiological features of the outbreak.

(2) An "Immune belt" should be created along the border to prevent the disease from crossing the frontier from either side. "Import" or "Export" of the disease should be prevented at all cost.

(3) Periodical assessments along the border to ascertain the herd immunity of the people should be carried out and remedial measures taken at once.

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