

INVESTIGATION OF IMPORTED CASES DURING THE SMALLPOX
ERADICATION PROGRAMME IN CAMEROON

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This report describes the experience in Cameroon in the control of smallpox foci since January 1967, i.e. since the beginning of the regional programme for the eradication of smallpox and the control of measles.

INTRODUCTION

There are 24 medical sectors (Figure 1) in Cameroon, each of which is under the direction of a physician, who is responsible for the vaccination and survey teams. In addition, he is responsible for reporting immediately, by telegram, every case of smallpox which occurs. He also has the main responsibility for taking control measures in the event of an outbreak.

Each medical sector normally uses the regular vaccination and survey team in the control of outbreaks, each team generally containing 7 to 15 nurses. In Sector 11, however, where the greatest number of foci and of cases have been found, a special team was established in 1967. This team carries out active surveillance for cases of smallpox and is responsible for investigating and controlling any epidemics which may occur.

CASES OF SMALLPOX SINCE JANUARY 1967

Since January 1967, a total of 159 cases of smallpox have been detected in Cameroon. All have occurred in the four sectors located in the extreme north (sectors nos. 8, 10, 11 and 13). In the period between January 1967 and the end of January 1969, there were 21 different outbreaks. Sector 8 had two outbreaks with a total of six cases; Sector 10, one outbreak with seven cases; and Sector 13, two outbreaks with 50 cases. The remaining 96 cases were associated with 16 outbreaks in Sector 11.

Table 1 summarizes the information on the 159 known cases which have occurred up to the present.

SOURCES OF INFECTION

The source of infection has been carefully looked up for each focus, and it will be seen from Table 1 that in four outbreaks only was the source of infection not definitely established. Of the total 21 outbreaks observed during the 26 months under consideration, 17 are known to have directly or indirectly originated from infection acquired in Nigeria and one additional outbreak (No. 7) is strongly suspected of having a similar origin. Thus, for the provinces of north Cameroon, the only major source of infection is Nigeria, where smallpox has been endemic for many years.

Fortunately, a smallpox control programme has now been initiated in Nigeria which should soon begin to show results.

CONTROL OF CASES - THE MEASURES TAKEN

Control of the frontier between Cameroon and Nigeria is absolutely impossible. Numerous mountain tracks are used in both directions, and villages and markets exist on the frontier itself. Surveillance of cases and an increase in the vaccination coverage in the two countries concerned are the only measures possible to achieve control of the disease.

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Of the 21 outbreaks which have occurred since January 1967, there were seven outbreaks which began in 1967, the average number of cases per outbreak being 18.3 (Table 2). Eleven outbreaks began in 1968, the average number of cases per outbreak being 3.4. In 1969, there have been three outbreaks, each with a single case. Thus, a marked decrease in the number of outbreaks has been noted since the beginning of the programme and the size of the outbreaks has progressively decreased. These changes we attribute to the effect of mass vaccination and to the improvement of measures for control and surveillance.

In addition, the average delay between the time of occurrence of the first case and that of the investigation decreased from 7.1 weeks in 1967 to 2.8 weeks in 1968 and to 1.0 weeks in 1969.

Vaccination of an entire canton was carried out in the containment of 10 outbreaks; for six outbreaks, we vaccinated the zone concerned and markets; and for five outbreaks, we vaccinated only contacts and kept them under surveillance.

It should be noted that in one focus only (No. 3), new cases of smallpox were observed more than two weeks after control measures had been taken. In all the other foci, the spread of the disease was rapidly brought to a halt.

At the present time, strict measures have been adopted in Cameroon for the detection and rapid control of all supposed cases of smallpox.

1. Each health centre in the northern region (sectors 8, 10, 11 and 13) is responsible for informing the sector head within 48 hours of any suspected case of smallpox within the area for which it is responsible. The same applies to the administrative and tribal authorities. Failure to perform this duty is punishable by severe penalties.
2. The sector head must, within 24 hours, warn by telegram the Ministry of Health at Yaoundé of every case of smallpox confirmed by him.
3. Without waiting for further instructions, the sector head must carry out the necessary preventive and mass vaccination operations around the new cases.
4. As soon as we have received an additional vehicle, a special surveillance team will be organized, trained and established in North Cameroon.

Table 1.

Outbreak No.	Sector	Onset		Source	Total Cases	Age					Un-known	Date of Investi gation	Action Taken
		First Case	Last Case			0-4	5-9	10-14	15-25	25+			
<u>I. 1967</u>													
1	8	23 Jan	23 Jan	Not found	1						1	Immediate	Canton vaccinated
2	11	April	April	Maiduguri, Nigeria	1				1			21 April	Canton vaccinated
3	11	20 June	25 Aug	Maiduguri, Nigeria	49	6	3	5	6	29		20 July - 27 Sept. (6 visits)	Area markets vaccinated
4	11	15 Aug	5 Sept	Nigeria	3						3	29 Aug, 6 Sept	Canton vaccinated
5	8	15 Sept	18 Nov	Gamarov, Nigeria	5	1	2	2				30 Nov	Area vaccinated
6	11	Nov.	25 Dec	Previous Outbreak-Cameroon	11	1			2	8		9 and 26 Feb	Contact vaccination; surveillance
7	13	Dec	4 Mar	? Nigeria	49		2		9	26	12	28-30 March	Canton vaccinated
<u>II. 1968</u>													
8	11	16 Jan	16 Jan	Bama, Nigeria	1						1	10 Feb	Ring vaccination; surveillance
9	11	27 Feb	10 Mar	Not Found	2						2	15 March	Area vaccinated; surveillance
10	11	5 Feb	20 Mar	Madagali, Nigeria	11		1	1	3	6		25 March	3 cantons vaccinated; surveillance
11	11	5 Mar	24 Mar	Not Found	2	1					1	26 March	Canton vaccinated; surveillance
12	11	14 Apr	14 Apr	Gouloumba, Nigeria	1						1	15 April	Market vaccinated
13	11	5 Apr	5 Apr	Soya, Nigeria	1				1			15 April	Canton vaccinated; surveillance
14	11	4 Apr	May	Banki, Nigeria	3		2		1			16 April	Canton vaccinated
15	11	April	30 May	Nigeria	3	1					2	10 June	Surveillance
16	11	15 Dec	15 Dec	Banki, Nigeria	1						1	20 Dec	Surveillance
17	10	8 Dec	7 Jan	Banki, Nigeria	7	2		1		4		26 Dec	Area vaccinated; surveillance
18	11	17 Dec	5 Jan	Banki, Nigeria	5			1	1	3		6 and 10 Jan 3 and 10 Jan	Area vaccinated; surveillance
<u>III. 1969</u>													
19	11	19 Jan	19 Jan	Outbreak 17, Cameroon	1						1	31 Jan	Canton vaccinated surveillance
20	11	20 Feb	20 Feb	Banki, Nigeria	1						1	24 Feb	Surveillance
21	13	20 Feb	20 Feb	Outbreak 17, Cameroon	1						1	24 Feb	Surveillance

Table 2. Indices of the Effectiveness of Surveillance - Cameroon

Year	No. of Outbreaks	Average No. of Cases per Outbreak	Average Interval between 1st Case and Investigation (weeks)
1967	21	18.3	7.1
1968	11	3.4	2.8
1969	3	1.0	1.0

FIGURE 1
SMALLPOX OUTBREAKS IN THE CAMEROON - 1967-1969 (January)

