

SPECIAL PROBLEMS RELATING TO THE SMALLPOX ERADICATION PROGRAMME
IN AFGHANISTAN

by

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Introduction

In this report, we propose to discuss three special problems encountered in Afghanistan in the eradication programme.

The practice of variolation, the importation of infection from Pakistan and the spread of the disease from one area to another by the nomadic kuchies have been the causative factors in initiating 60% of the outbreaks so far this year (Table 1).

Variolation Practice

The people of Peka, a remote village in Nangarhar province, fearing that smallpox might spread to their village from a nearby area, sent for a variolator operating in a neighbouring woleswali. He variolated more than 100 people of whom five developed typical smallpox, and one died. Investigation revealed neither the name of the variolator nor his whereabouts. The anti-climax was that the reported outbreak in the nearby area was not of smallpox but of measles!

On receipt of alarming reports of a large number of cases in Khost Fering woleswali, Baglan province, which had been snow-bound during the previous four months, our team investigated and found 12 current cases and obtained particulars of 86 cases including 40 deaths that had occurred during the previous few months. All evidence indicated that the majority of these cases were due to variolation or had contracted the disease from those who had been variolated.

These two instances illustrate the nature of the problem. Eighteen of the 57 outbreaks this year were initiated by variolation. These outbreaks accounted for

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280 cases, or 65% of the 433 cases that have occurred. Of these 280 cases, 65 were directly due to variolation, whereas the others contracted infection from variolated cases. Thus, on the average, one variolated case transmitted infection to approximately four others.

Variolation has been practised in Afghanistan for centuries. In the past, professional variolators could be found in any part of the country, and people willingly accepted variolation for want of anything better to prevent natural smallpox. Even now, some people in remote areas believe that variolation has advantages over vaccination. The fact that variolation can spread smallpox and can thus be the cause of severe epidemics is not generally recognized.

One experienced variolator informed us that he considered variolation to be his profession, as it was that of his father and also that of his fore-fathers. He charged 10 Afghanis, equivalent to thirteen US cents, for each variolation. He had operated in Doshi woleswali of Baglan province, but when the provincial vaccinators started working in that area, he moved to another woleswali where, because of its remoteness, vaccinators had not yet penetrated. His variolation technique was as follows. He would first take the smallpox crusts, which he carried in a small tin or bottle, and grind them into powder using a small mortar and pestle. Then he would add a little luke-warm water to the powder to make a paste. With a small scoop, a tiny portion of this paste was placed on the skin of the dorsum of the left hand of the recipient. Four or five needles, tied together in a bunch, were used to make multiple punctures into the skin through the paste. He stated that blood must ooze a little to be sure of a successful operation. Then a bandage was applied over the area. In 9 out of 10 instances, the variolated person would develop fever and just a few eruptions on the face and extremities in three to four days, thus indicating a "take". The eruptions matured and crusts fell off in another four days. The variolator asserted that variolation was to be preferred because he believed that no one suffered from serious disease after variolation and that variolation gave life-long immunity whereas vaccination had to be repeated. By finding him alternative employment, we succeeded in persuading him to give up his dangerous practice.

Another variolator encountered used a different variolation technique. With a pen-knife he made three linear scratches on the dorsal aspect of the left forearm of the recipient, each scratch half an inch long and at right angles to the axis of the limb. A few smallpox crusts were rubbed into the wounds thus caused and a bandage was applied over the area and left for three days. According to this variolator, on rare occasions, perhaps one in five or one in ten variolations did not "take". If more than 20% of the variolations showed no "take" he would obtain new crust material either from a natural case of smallpox or from a variolated case.

The crusts used by variolators are not stored in any special way. The material is kept in a small bottle or tin or even in a paper packet in any convenient place in the house. The variolators know from experience that the "crusts" retain their potency definitely for three months, but at times for longer periods - perhaps for nine months to one year.

The practice of variolation is now confined to a very few remote areas. All outbreaks due to variolation this year have occurred in places inaccessible by road

and where systematic vaccination has not yet begun. Though there is no legislation against variolation, variolators know that the present government deprecates their practice and they have left the larger towns. Further, wherever the provincial vaccinators are working, the people have come to know that one can obtain protection against smallpox without getting the disease. Hence, in those places the public demand for variolation has decreased.

The programme staff are making efforts to contact variolators wherever possible and to persuade them to give up their dangerous practice and, in some cases, to become vaccinators. So far, 8 male and 2 female variolators have been persuaded to stop by giving monetary grants or by providing them with vaccine and needles so that they might carry on as vaccinators.

It is felt that as the vaccination programme is extended to remote areas and as the local people get to know the dangers of variolation, variolators will find that their practice is no longer lucrative and will take up alternative work. However, where variolation is detected, efforts are continuing to identify the responsible variolator and to induce him to terminate the practice.

Importations from Pakistan

A 30-year old man, living in Chakmani village, Paktia Province which borders Pakistan, developed smallpox. Though this patient gave a false history of his movements prior to his illness, it was ultimately discovered that he was a well-known smuggler operating across the international border. He had apparently contracted infection while on a secret visit to the city of Peshawar in Pakistan.

A 25-year old male from village Sarkani, Kunar province, went across the border into Pakistan to visit a relative. After a stay of nearly three weeks he developed smallpox and died. His body was brought back to his village. Later two of his family members developed smallpox and died. Three other relatives of the family in the neighbourhood also got the disease.

There were nine other instances this year in which the initial cases had contracted infection in Pakistan. There is no restriction of people moving to and from neighbouring areas in Pakistan and people in the border provinces with relatives or business interests on the other side frequently go across.

In tackling this problem we have given priority to vaccination programmes in provinces bordering Pakistan. Most of these provinces have now been completed and soon we expect to have at least a partial immunity barrier along the border. This alone will not prevent the importation of infection but at least it will suppress further spread. In addition, we plan to continue to exercise particularly active vigilance for outbreaks in the border areas. There is a need, however, for joint meetings to discuss mutual problems, to arrange for more rapid notification of importations and to plan coordinated action.

So long as smallpox exists in Pakistan, the danger of its importation to our country will continue and of course, vice-versa.

Problem of the Kuchis

Compared to the preceding two problems, the problem of the nomadic kuchis might appear minimal considering that only five out of the 57 outbreaks could be attributed to infection carried by them. Their danger lies in the ease with which they can spread the disease over long distances from one part of the country to another.

For the first time in two years, an outbreak of 11 cases, including 2 deaths, occurred in a single village in far-away Badghis province. Investigations indicated that the source of infection of the first case was a patient among the kuchis who had temporarily camped nearby. The kuchis had left the area and gone to Ghor Province prior to our team's arrival. As Ghor Province had become snow-bound by then, they could not be located.

Quite recently, while tracing the source of infection of a hospitalized case in Kabul, our investigation team identified three focal outbreaks in Ghazni Province all of which were attributed by the local people to kuchis who had earlier camped in their neighbourhood. A kuchi patient was seen the next day in a camp next to another village in the area. It was found that kuchis from the camp visited the village to work or to sell or buy things and seemed to be invited into the houses quite freely. Transmission of the infection under such conditions appeared likely.

A few months ago, a kuchi girl was hospitalized for smallpox in Paktia Province. The source of her infection was unknown. After a few days it was reported that the patient had left the hospital without permission and had apparently moved away with her group towards Pakistan. This illustrates the fact that importation of smallpox is a "two-way street".

The 2 million kuchis thus pose a particular problem. They camp on the mountains of the Hindukush during ~~summer~~. Every autumn they strike their camps and move down through the passes into the warmer plains. Again, every spring, they return to their native mountains. Thus they travel nearly 1 000 miles a year.

The kuchis are fiercely independent and brook no interference in their affairs or movements. However, they usually accept vaccination while camping, though not so readily while on the move. How to get them all vaccinated is a problem. They are so scattered, camping in mountainous areas which are accessible only by foot, and more often than not, moving over the roughest of trails.

At present, our vaccination teams vaccinate both the local population and the kuchi population found in their areas of responsibility. The zonal surveillance teams, when not engaged in their primary activity, are assigned to vaccinate kuchis who pass through their respective zones. We have tried "check posts" but not with any success as there are so many paths and trails over which the kuchis move. Next summer we plan to concentrate our resources in order to vaccinate a large number of the kuchis when they have assembled in Ghor and Bamian provinces.

Conclusion

We have discussed some of the special problems being encountered in Afghanistan in the eradication of smallpox. None of these is insoluble. We believe that as the general immunity level of the population including the nomads increases, as the reporting system is strengthened and as well-trained teams intensify their search for hidden foci of infection and investigate thoroughly each and every outbreak and take prompt containment action, the problems referred to will be resolved.

TABLE 1

SMALLPOX OUTBREAKS DURING 1970 (UP TO 1 OCTOBER 1970)

Initial Source of Infection	No. of Outbreaks
Variolation	18
Pakistan	11
Kuchis	5
Hospital	3
Fellow travellers	2
Undetermined	18
Total	57