



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTE

52357
WHO/CDS/BVI/94.3
DISTR: LIMITED
English only

**REPORT OF THE MEETING OF THE
AD HOC COMMITTEE ON ORTHOPOXVIRUS INFECTIONS**

**Geneva, Switzerland
9 September 1994**

Organized by: Programme on Viral, Bacterial Diseases and Immunology (BVI)

This document is not issued to the general public, and all rights are reserved by the World Health Organization (WHO). The document may not be reviewed, abstracted, quoted, reproduced or translated, in part or in whole, without the prior written permission of WHO. No part of this document may be stored in a retrieval system or transmitted in any form or by any means - electronic, mechanical or other - without the prior written permission of WHO.

The views expressed in documents by named authors are solely the responsibility of those authors.

Ce document n'est pas destiné à être distribué au grand public et tous les droits y afférents sont réservés par l'Organisation mondiale de la Santé (OMS). Il ne peut être commenté, résumé, cité, reproduit ou traduit, partiellement ou en totalité, sans une autorisation préalable écrite de l'OMS. Aucune partie ne doit être chargée dans un système de recherche documentaire ou diffusée sous quelque forme ou par quelque moyen que ce soit - électronique, mécanique, ou autre - sans une autorisation préalable écrite de l'OMS.

Les opinions exprimées dans les documents par des auteurs cités nommément n'engagent que lesdits auteurs.

Table of Contents

	<u>Page</u>
Introduction	1
Implementation of recommendations issued by the <i>Ad Hoc</i> Committee in 1990	1
Nucleotide sequencing of variola virus genomes	4
Variola virus stocks	5
Cloned DNA fragments of variola virus genomes	7
Smallpox vaccine	9
Summary of Recommendations	9
List of Participants	11

**Report of the Meeting of the
Ad Hoc Committee on Orthopoxvirus Infections
Geneva, 9 September 1994**

Introduction

Dr R.H. Henderson, Assistant Director-General, welcomed participants and opened the meeting on behalf of the Director-General. He indicated that the major objectives were to finalize recommendations about the fate of the last stocks of variola virus kept in the WHO Collaborating Centres for Smallpox and other Poxvirus Infections in the USA and the Russian Federation, and to make recommendations on the destruction or maintenance of cloned DNA fragments of variola virus genome, existing stocks of smallpox vaccine and seed virus for vaccine production.

Dr Henderson briefly reviewed the WHO activities since the global eradication of smallpox had been confirmed. He described the establishment of the WHO Committee on Orthopoxvirus Infections which had met annually between 1981 and 1986 to maintain surveillance activities and to oversee the post-eradication policy. At its last meeting, in 1986, the Committee recommended the establishment of an *Ad Hoc* Committee to oversee further activities, especially relating to the cloning (and later sequencing) of the variola virus genome, the retention of WHO stocks of smallpox vaccine and seed vaccine virus stocks, and ultimately to oversee the destruction of the remaining stocks of variola virus. Because of the responses received from the scientific and political communities concerning the recommendation to destroy the variola virus and in recognition of scientific advances made in obtaining nucleotide sequence information on the variola virus genome, WHO was now asking the *Ad Hoc* Committee to re-evaluate its previous recommendations.

Dr F. Fenner was appointed Chairman and Dr P.J. Greenaway Rapporteur.

Implementation of recommendations issued by the *Ad Hoc* Committee in December 1990

An overview the *Ad Hoc* Committee's previous recommendations and of the post-smallpox eradication programme since its last meeting in December 1990 was presented. The recommendations are given below, with comments pertaining to their current status:

Recommendation 1

All stocks of variola virus and materials containing variola virus must be destroyed by 31 December 1993.

The publication of this recommendation engendered a debate between those supporting and opposing the destruction of the variola virus. The issue was further discussed in an open international scientific forum organized during the IX International Congress of Virology held in Glasgow in August 1993. A summary of the debate as it appeared in the media, the scientific literature, during the Glasgow conference or otherwise communicated to WHO is attached below (see pages 5-6). The present meeting was convened to review the matter once again.

Recommendation 2

All recombinant plasmids and other related materials that contain variola virus DNA sequences should be destroyed at the same time as the variola virus stocks, provided that the Technical Committee (see recommendation 5 below) is satisfied that sufficient sequence information is available, and serious scientific objections have not been raised.

An inquiry among individual members of the *Ad Hoc* Committee indicated that the majority would reverse this recommendation. The recommendation is therefore brought for reconsideration by the Committee.

Recommendation 3

In the interim, all recombinant plasmids that contain variola virus DNA sequences should be registered with the World Health Organization (WHO). These plasmids may only be provided to requesting scientists after informing WHO and on the strict understanding that they must not be distributed to third parties or used in laboratories handling other orthopoxviruses.

All laboratories known to have worked with recombinant plasmids containing variola virus DNA sequences were informed of the recommendation and have reported their holding of such material to WHO. The inventory was included among the working papers of the meeting.

Recommendation 4

WHO should endorse the proposals made by representatives from the USA and USSR for determining the nucleotide sequences of the genomes of specific and representative variola viruses; the order of priority should be an Asian major strain, an American minor strain, an African major strain and an African minor strain.

The WHO Collaborating Centres for Smallpox and other Poxvirus Infections designated at the Centers for Disease Control and Prevention in Atlanta, Georgia, USA and at the Institute for Viral Preparations, Moscow, Russian Federation accepted and executed the sequencing project as a joint effort. The Institute of Molecular Biology, "Vector", Koltsovo, Novosibirsk Region, Russian Federation was approved by a WHO team to sequence variola virus genomes on behalf of the WHO Collaborating Centre for Smallpox and other Poxvirus Infections in Moscow. Close collaboration was established between these Institutes and the Collaborating Centre at CDC which also provided partial financial support for the project.

Recommendation 5

WHO should establish an expert Technical Committee to oversee the above DNA sequencing efforts; this committee should consist of a Chairman who is an expert in poxvirology, a representative from each of the sequencing laboratories, at least two other people with experience in the sequence analysis of large DNA molecules, and a member of the WHO secretariat.

The Technical Committee on Analysis of Nucleotide Sequences of Variola Virus Genomes was established in 1991 under the chairmanship of Professor Dumbell. The sequencing project advanced quickly and the nucleotide sequence of two strains, India-1967 and Bangladesh-1975, was nearly completed in December 1992 when the Technical Committee had its first meeting in Atlanta. A second and final meeting of the Committee was held in January 1994 in Geneva. In addition to the complete nucleotide sequence of strain Bangladesh-1975 and the complete genome coding sequence of strain India-1967, partial nucleotide sequences of variola virus DNA had been obtained from several other strains. The sequence information has been made available to the scientific community through the Genbank/EMBL data banks and several publications.

Recommendation 6

WHO should provide the financial resources and administrative support for the Technical Committee; an officer within the WHO Division of Communicable Diseases should continue to take responsibility for concluding the post-eradication activities.

Financial support has been available within WHO for some of the activities but it is appropriate to acknowledge the generous contributions of the Centers for Disease Control and Prevention. Core staff have been maintained within the WHO Division of Communicable Diseases.

Recommendation 7

WHO should establish a Commission to certify the destruction of all variola virus stocks and, when appropriate, all recombinant plasmids and other materials containing variola virus DNA sequences; this Commission should prepare a final report on post-eradication activities in time for presentation to the World Health Assembly in May 1994.

This recommendation is being reconsidered at this meeting.

Recommendation 8

The WHO Collaborating Centres for Smallpox and other Poxvirus Infections in Atlanta, Georgia, USA and Moscow, Russian Federation, should continue to serve as reference and research facilities for poxviruses.

The two Centres agreed to continue to serve in this function and were redesignated in 1991, for a period of three years with the following terms of reference:

- To maintain the capability in terms of both personnel and facilities for laboratory diagnosis of smallpox and other viruses in the group of orthopoxviruses;
- To maintain representative strains of variola virus;
- To determine the nucleotide sequence of the genome of at least one variola virus strain of special epidemiological significance;
- To register with WHO/HQ all recombinant plasmids containing variola virus DNA sequences produced in the laboratory and the distribution of these plasmids;
- To cooperate with WHO in implementing the recommendation of the Fourth Meeting of the Committee of Orthopoxvirus Infections and of the *Ad Hoc* Committee on Orthopoxvirus Infections to destroy the remaining stocks of viable variola virus before 31 December 1993;
- To submit an annual report to WHO on the relevant work of the Centre.

Recommendation 9

WHO should re-advise all countries that there is no necessity for vaccinating military personnel against smallpox.

Following the meeting of the *Ad Hoc* Committee, WHO Member States were informed of the recommendations issued with particular emphasis on the recommendations to destroy the remaining stock of variola virus. The recommendation that vaccination of military personnel should be discontinued in all countries was highlighted. WHO Headquarters received comments from six European Member States. They generally supported the recommendations but one country emphasized the continued need for smallpox vaccine. A few Member States informed WHO that they maintained a stock of smallpox vaccine and/or the seed virus and one, believing that variola virus was still needed for diagnosis, expressed concern about its destruction.

It was reported that a recent survey had indicated that approximately 61 million doses of smallpox vaccine were available and satisfactorily stored worldwide. Some 10 Institutes still retain seed stocks of the vaccine.

In answer to questions from members of the Committee, it was reported that WHO had undertaken an extensive survey throughout the world to confirm that no variola virus stocks existed outside of the designated laboratories. There is now good evidence to suggest that such stocks do not exist although no absolute guarantee can be given. Members of the Committee were satisfied that WHO had done everything feasible to ensure that no stocks of variola virus had been overlooked.

Since the declaration of global eradication some 170 rumours of smallpox have been reported to WHO Headquarters from all WHO regions. The incidence of these rumours has diminished during the post-eradication period; 3 have been reported so far in 1994. All rumours were investigated, none was confirmed.

Ten cases of monkeypox have been reported to WHO in the eight years since the end of the special surveillance programme on monkeypox. From three of them monkeypox virus was isolated. Eight of the 10 cases occurred in Gabon: three related cases in 1987 and five cases in neighbouring villages in January, May and June of 1991. One case occurred in Cameroon in 1990. The nine cases were further investigated and specimens were obtained from some for laboratory confirmation at the WHO Collaborating Centres. Monkeypox virus was isolated from one case in each outbreak in Gabon and the case in Cameroon. The most recent incident was reported from Zaire in 1992. It was reported by a local physician who provided photographs and offered his services for further investigation. Efforts by the Regional Office to contact the physician for follow-up failed.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_30708

