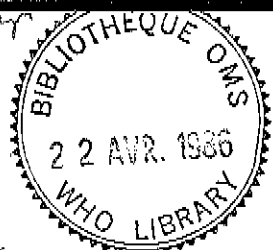




WORLD HEALTH ORGANIZATION

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MEETING ON THE WHO PROGRAMME OF STREPTOCOCCAL DISEASES COMPLEX FOR 1986-1987 AND ON THE EVALUATION OF THE NON-CULTURE RAPID GROUP A STREPTOCOCCUS TEST (Geneva, 3-4 February 1986)

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[Report]

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The meeting was opened by Dr E. Tikhomirov, Medical Officer, Microbiology and Immunology Support Services, Division of Communicable Diseases, who stated that the purpose of the meeting was to make recommendations to the Microbiology and Immunology Support Services, Division of Communicable Diseases for the WHO Programme on Streptococcal Diseases Complex for 1986-87 and to evaluate the WHO cooperative study on the co-agglutination test for rapid detection of group A streptococci in the upper respiratory tract disease.

1. DISCUSSION AND RECOMMENDATIONS TO THE WHO PROGRAMME OF STREPTOCOCCAL DISEASES COMPLEX FOR 1986-1987

Streptococcal infections and their suppurative and non-suppurative sequelae remain an important health problem, not only for the industrialized but especially for the developing countries of the world. Since it is quite likely that this will continue to be the case for at least several decades, it was recommended that new information should be generated and that the development of improved or new control measures for the diagnosis and prevention of streptococcal infections and their non-suppurative sequelae be encouraged, enhanced and supported by WHO whenever possible.

The themes proposed and discussed covered the following topics: rapid non-culture techniques for identification of groupable haemolytic streptococci pathogenic for man, classification techniques for non-groupable streptococci, typing techniques of/and typing sera production for group A streptococci, methods for streptococcal antibody determination important for diagnosis and possibly for the assessment of the clinical status of the disease and antibiotic sensitivity of group A streptococci.

The review and the discussion of the themes revealed that the following topics were considered to merit priority for activities initiated or coordinated by WHO:

- 1.1 Rapid, non-culture techniques for identification of beta-haemolytic streptococci of groups B, C and G. These methods should be developed and introduced into routine practice (high priority).

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1.2 As there is at present a significant lack of typing sera for group A streptococci, as of anti-protein and anti-SO factor sera, and since such sera are essential for the laboratory activities in basic and applied research, and will be needed for health services at central and peripheral levels, it is necessary that:

- a) collaborative work be immediately undertaken between a very small number of experienced and advanced reference or research laboratories to increase the quality and the quantity of typing sera for group A streptococci. These activities should be initially supported by WHO;
- b) an effort be immediately undertaken to study and type M and SOF untypable strains, along with verification of candidates for newly identified types;
- c) the geographical distribution of rheumatic fever and acute glomerulonephritis-associated strains be mapped by appropriate WHO collaborating and reference laboratories to facilitate ultimately the prospect of a practical group A streptococcal vaccine (very high priority). The distribution of rheumatogenic strains of streptococcus can be carried out in association with national rheumatic fever/rheumatic heart disease (RF/RHD) control programmes and the WHO global programme for prevention of RF/RHD.

1.3 While there are currently available acceptable streptococcal antibody tests for confirming group A streptococcal infection (e.g. anti-streptolysin O, anti-deoxyribonuclease B), there is no simple, reliable and inexpensive test for utilization at the peripheral health care level. Such a test, identifying simultaneously two or even three streptococcal antibodies, would be extremely useful and should be developed and tested (high priority).

1.4 The further testing and documentation of the clinical and epidemiological usefulness of measuring antibody to the group A polysaccharide of the cell wall should be encouraged (high priority).

1.5 Methods for determining the immune response to beta-haemolytic streptococci of groups B, C and G be developed and introduced (priority).

1.6 There is presently no universal standard for anti-deoxyribonuclease B available. This has resulted in a wide variation in titres from different countries in different parts of the world. The determination and introduction (availability) of such an anti-DNase B standard is highly desirable (priority).

1.7 An effort to monitor group A streptococci from sources around the world for antibiotic resistance to erythromycin and for disparity between the penicillin minimal inhibitory concentration (MIC) and the minimal bactericidal concentration (MBC), known as tolerance, should be conducted by WHO as a part of its worldwide streptococcal control programmes (priority).

2. EVALUATION OF A WHO COOPERATIVE STUDY OF THE NON-CULTURE RAPID GROUP A STREPTOCOCCUS CO-AGGLUTINATION TEST (COA TEST)

2.1 The COA test for group A streptococci was evaluated by seven advanced streptococcus centres and compared with conventional throat culture technique in over 7 000 adults and children with pharyngitis and normal individuals.

2.2 In pharyngitis patients with over 100 colonies of beta-haemolytic streptococci on throat culture, the agreement (sensitivity) was over 97%.

- 2.3 The specificity of the COA test for group A streptococci was also over 97%.
- 2.4 In samples of symptomatic individuals with less than 100 colonies on throat culture, the agreement was approximately 75%.
- 2.5 In samples from individuals with either no beta-haemolytic streptococci or in those with other groups of beta-haemolytic streptococci, the agreement was greater than 95%.
- 2.6 The clinical significance of the decreased level of sensitivity in individuals with less than 100 colonies of group A streptococci on throat culture remains to be determined.
- 2.7 It was concluded that the sensitivity and specificity of this COA test (Phadebact, Pharmacia) was excellent in patients with pharyngitis and could be recommended for use at the peripheral level of delivery of health services.
- 2.8 It was considered that the results of the study and these recommendations should be published as a WHO document for internal distribution, and also in an appropriate medical (e.g. paediatric) journal for wider distribution.
- 2.9 It was considered that the COA test should be made available at an early date, at minimal price, to countries with streptococcal and rheumatic fever control programmes. This could be facilitated with the assistance of WHO.

3. STRATEGY FOR PROJECT IMPLEMENTATION AND INFORMATION EXCHANGE

Because of the continuing complexity of the technical laboratory problems as well as the epidemiological issues and difficulties of transfer of technology to introduce, maintain and upgrade streptococcal diseases complex control programmes around the world, it is highly desirable - indeed necessary - that a schedule be established for the purpose of holding meetings, workshops and for consultations to analyze progress within the WHO coordinated projects and to establish needs and priorities for control programmes. These activities should be coordinated within the activities related to the programme for the control of RF and RHD.

Two types of meeting were proposed:

- a) a group of appropriate specialists working on the control of streptococcal infections to discuss the global issues and requirements. This meeting is proposed for 1988;
- b) small groups of specialists to discuss and make recommendations to WHO with regard to specific WHO projects.

These meetings should be promoted and organized by WHO.

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