TECHNICAL PRESENTATION

TUBERCULOSIS CONTROL IN THE DEMOCRATIC REPUBLIC OF VIET-NAM

submitted by:

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In 1955 when the tuberculosis control efforts started in Viet-Nam, conditions were very difficult. The country had just emerged from a war lasting nearly ten years. In all there were 108 physicians for 14,000,000 people and less than 100 beds for all the tuberculosis patients in the country. The previous statistics indicated 500 tuberculosis deaths for 100,000 population. Out of 1000 deaths in hospital, 78 were due to tuberculosis. Preventive vaccination was almost non-existent.

Some principles of planning

Tuberculosis control in Viet-Nam is based on the following principles:

- A tuberculosis control organization must be built up in stages, unified from the apex to the base, and resting on the medical foundation of the country, i.e. the large existing health network.

- Control must be carried out with the help and support of the different popular organizations and the voluntary cooperation of the people.

- It must make progress in conjunction with activity of propaganda and extensive, sustained information on the precepts of hygiene in general and tuberculosis prophylaxis in particular.

- It must be in a position to derive benefit from the worldwide experience on the subject and be based above all on preventive BCG vaccination and ambulatory treatment, hospitalization being reserved for cases in which the bacteriological examination is positive.

Achievements

1. In the sphere of organization we have been able to build up a network of tuberculosis control in all the provinces, a network extending to almost all the districts, villages, factories, schools and public establishments.

   Each province has its dispensary-hospital or dispensary-tuberculosis service, with 50 to 200 beds and responsible at the same time for the management and ambulatory treatment of 500 to 6000 tuberculosis patients.

   Each district has its tuberculosis organization (mostly the tuberculosis service of the hospital) which treats hospitalized patients and carries out ambulatory treatment.
In the villages and different public establishments the basic health posts give ambulatory treatment. Each maternity is obliged to carry out BCG vaccinations of newborns.

At the apex the Tuberculosis Control Institute, set up in 1957 under the sponsorship of the Ministry of Health, is responsible for all anti-tuberculosis activities: formulation of the national control programme, scientific research, training of staff in conjunction with the medical schools, health education, management and epidemiological investigation.

Apart from the above-mentioned state organizations, tuberculosis control also has the enthusiastic support of many mass movements; mention may be made of:

- Isolation and rest home centres for tuberculosis patients, built and managed by agricultural cooperatives, workers' unions... These social institutions have from 20 to 70-80 beds, receive patients, above all those for whom the bacteriological examination of sputum is positive. Their support in tuberculosis control is truly effective.

- Assembly of tuberculosis patients living in the same locality (village, district or public establishment) in a group which meets regularly each month to remind each other of the concepts of hygiene, prophylaxis and treatment.

- Popular committees for tuberculosis control bringing together representatives of the local social groups: old people, dignitaries, members of the Red Cross... These committees work with the medical service and the public authority to assist the needy tuberculosis patients and take part in tuberculosis control campaigns (vaccinations, epidemiological investigations, etc.).

The above-mentioned mass organizations play a very active role in helping the physicians.

There is also a Tuberculosis Control Association, which is a member of the International Union against Tuberculosis; it is an organization bringing together tuberculosis specialists and giving valuable assistance in the many spheres of tuberculosis control, scientific research, development of the health network, formulation of the plan of action, health education, etc.

2. BCG vaccination

Tuberculosis vaccination was introduced in Viet-Nam in 1957, and as from 1962 the method has been applied broadly in mass immunization.

We use the method of intradermal injection of BCG (the Dermojet using the method of jet injection has been used since 1969 in a number of vaccination campaigns). The vaccination is systematic, without a preliminary skin test.
We have used several types of BCG; however, the type most commonly used is that known as 43° BCG. From our personal experience, this type of vaccine gives protection, has very little untoward reaction and does not require extreme caution in storage (hence it is suitable for our climate); however, the duration of allergy produced is relatively short, thus repeated vaccinations are required.

Over the last twelve years 4 100 000 newborns have been vaccinated and over 35 million adults received BCG.

3. Treatment

Priority is given to ambulatory treatment, hospital beds being reserved above all for emergencies and bacteriologically positive cases with 90 to 120 days' hospitalization and cases requiring surgery. The routine therapeutic drugs comprise INH, streptomycin and a number of second-line drugs not commonly used as ethionamide, pyrazinamide... supplementary preparations used with INH such as biostimulins, suspensions of Bacillus Subtilis. For some time drugs such as ethambutol, Rifampicin have been used in the large hospitals.

In the last five years, 55 000 to 65 000 tuberculosis patients have been treated each year (i.e. 3 per 1000 population). The number of new patients is 10 000 to 12 000 (i.e. 0.5 per 1000 population).

Surgical treatment of tuberculosis started in 1959, has played a very active role in treatment as in prophylaxis of tuberculosis. Nevertheless, in view of the morbidity in our country, pulmonary surgery is reserved above all for cases of fibro-cavitary tuberculosis.

4. Other activities

Training of tuberculosis specialists occupies a paramount place. Phthisiology has been taught in the medical faculties and schools for medical assistants. The Tuberculosis Control Institute has also undertaken basic and further training of specialists. Most of the tuberculosis specialists with experience are teaching in the provincial and district medical schools and directing practical sessions. The physicians and assistant physicians of the basic health bodies as well as midwives receive further training in tuberculosis and instruction in detection and management of tuberculosis cases, and are introduced to methods of treatment and BCG vaccination.

Much attention has been paid to the work of mass health education. Many means have been used: tables and posters, slogans, newspaper articles, radio, television, health extension pamphlets, match-box label, stamps, slides, etc.
Epidemiological case-finding was organized early in 1955, and operates regularly and continuously. Microscopy initially and fluorography are the most commonly used methods. Most of the regional services undertake case-finding; the data are then dispatched and processed at the Tuberculosis Control Institute which, in addition, carries out further assessments on important points.

**EPIDEMIOLOGY**

1. Lesions detected by systematic fluorography:

<table>
<thead>
<tr>
<th>Years</th>
<th>Rate/number of radiographies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1956-1957</td>
<td>2.5 - 3 per 100</td>
</tr>
<tr>
<td>1965-1966</td>
<td>1.0 - 1.2 per 100</td>
</tr>
<tr>
<td>1970-1971</td>
<td>1.4 - 1.6 per 100</td>
</tr>
<tr>
<td>1973-1974</td>
<td>1.2 - 1.4 per 100</td>
</tr>
</tbody>
</table>

Positive bacilloscopy of persons with cough in mass investigations:

<table>
<thead>
<tr>
<th>Years</th>
<th>Rate/population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955-1957</td>
<td>3.5 - 4 per 1000</td>
</tr>
<tr>
<td>1965-1966</td>
<td>1.5 - 2 per 1000</td>
</tr>
<tr>
<td>1973-1974</td>
<td>2 - 2.5 per 1000</td>
</tr>
</tbody>
</table>

Mass surveys by microscopy and radiographical examination in most places, in many regions, in the different population groups have also enabled us to determine that the rate of morbidity is falling appreciably after a period of ten years of tuberculosis control (1965 and 1966); however, the rate is marked by an increase during the years of the war of destruction by the United States, with a decrease in recent years, which has been sharp among factory workers, peasants and workers in administrative and economic sectors, and less so among townspeople and inhabitants of the high regions.

According to our present data, the rate of morbidity with radiologically active lesions is 1.2% (persons aged more than 12 years and subject to mass radiography); the prevalence of smear positive cases
is 2.2 per 1000 (systematic examination of persons with cough, i.e. 5 to 8 per cent of the population). This rate of prevalence is an epidemiological index of tuberculosis morbidity among the population.

Because of the immunization resulting from the mass BCG campaigns, we do not carry out surveys of tuberculosis infection. The mortality rate has not been determined precisely by large-scale surveys; nevertheless, in the large towns, if the statistics are to be believed, the rate of mortality from tuberculosis amounts to approximately 22-35 per 100 000 population.

Prospects

For the future we have undertaken to solve the following problems:

- For vaccination we will make more extensive use of BCG freeze-dried vaccine which we are starting to prepare in the country itself, gradually replacing *BCG*, thus making it possible to space revaccinations. In the present conditions of peace, the vaccine can be transported more easily to the most outlying regions, and appropriate means of storage can be improved.

According to our regulations, priority in BCG vaccination is given to newborns, to children from 7 to 14 and to adults working in the economic sectors at greatest risk; education, health, foodstuffs, trade and industry (with dust pollution).

- Improvement of the quality of curative care in order to make it more effective. In addition, we propose to use new products and their alternatives. The indications for surgical treatment must be widened and it must be carried out in good time to achieve better results. At the same time, emphasis is placed on the experience of traditional medicine to complement the present conventional treatment. We have been able to achieve initial good results.

- Gradual extension of activities outside the framework of phthisiology towards pneumology, particularly in relation to pneumoconiosis, pulmonary paragoniamiasis, aspergillosis, other pulmonary parasitic diseases, chronic bronchitis, asthma, lung cancer and immunopneumopathy - all diseases dealt with in our first investigations.

- Intensification of basic and further training of staff, informing them of recent advances in pulmonary tuberculosis and broadening the cultural relations with foreign countries - in a word, giving them better conditions of work so necessary after a long period of war.

Hanoi, 21 August 1975