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EDITORIAL

The Resurgence of Tuberculosis

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During the past decades, the incidence of tuberculosis (TB) has been declining steadily but in the middle of 80's and for the following years there has been a reversal of that trend and a steady increase in the number of reported TB cases in the United States of America and in other parts of the world[1,2]. In Bahrain luckily this has not been the case: according to the Ministry of Health records[3,4]. There has not been a significant year to year change in the incidence of TB, yet there are several issues of concern that need to be addressed in order to prevent an increase in the local incidence of this disease; and better yet to decrease it significantly. In this brief note, factors that have contributed to the re-emergence of TB will be mentioned; together with some suggestions to be considered for implementation on the local level.

Cases of multiple drug resistant TB (MDRTB) were recently identified with increasing frequency in the United States[5] and in other parts of the world[6]; particularly in patients with the acquired immune-deficiency syndrome (AIDS)[7], which were of primary importance to public health authorities. In addition, the problem was compounded by increasing immigration from endemic areas[8], failure of patients to complete therapy for the prescribed time[9] and a decline in physician awareness of the standards of diagnosis and therapy. These factors, in addition to a significant decrease in public health funding for TB control programmes[7] are the most significant reasons for the resurgence of TB in the United States, and possibly in other parts of the World.

Most of these factors may not be of importance locally; the two initially described contributors, ie. MDRTB and AIDS are of serious concern. As mentioned earlier the number of TB cases reported to the Public Health Directorate of the Ministry of Health has not changed significantly in the past few years, however, individuals with the Human Immune-deficiency Virus (HIV) infection and patients with AIDS are being diagnosed in Bahrain[3,4]. As for drug resistance only a few MDRTB isolates have been documented locally, a significant finding; although of a non-alarming proportion so far.

The Ministry of Health has been active in the promotion of programmes and regulations that aim to control and limit the spread of TB. This is exemplified by the screening of expatriate workers on their initial employment, the implementation of BCG vaccination in children and by the establishment of a new TB control committee in the Ministry. The formation of national TB control programmes is in accordance with the recent recommendations of the WHO with the objectives of rapidly detecting infectious TB cases and curing them[10], but in order to prevent an increase in the number of locally reported cases extreme vigilance and continuous re-evaluation of the TB control policies and procedures are necessary. Among the issues that I believe need to be addressed are the following:

1. Currently BCG vaccination is administered to children at the age of 6 years. The WHO emphasizes the inclusion of BCG vaccination in the Expanded Programme of Immunization. In the surrounding Gulf States, BCG vaccination is given at birth. Although some publications question the efficacy of BCG vaccine in older children and adults, it is well established that it significantly decreases or almost eliminates the two most feared forms of TB in infancy, namely miliary TB and TB meningitis[1]. Changing the current practice and administering BCG vaccine at birth assures us of preventing these most dreaded forms of TB that are associated with the highest morbidity and mortality. Still at six years of age children need to be screened with the intradermal tuberculin test using the PPD. The BCG given at birth does not interfere with the reading of the PPD test at six years: studies have shown that 80 to 90% of infants given BCG at birth lose their tuberculin reactivity at 3 years of age[2]. Having a history of BCG vaccination at birth should not deter from using the PPD test in the diagnosis of TB. Health care professionals should be aware of the changes in the guidelines of PPD test interpretation which have been published recently by the United States Centers for Disease Control and Prevention, the American Thoracic Society and the American Academy of Pediatrics[2,11]. These guidelines currently state that an induration of 5 mm or more is to be considered positive in children in close contact with known or infectious TB; children suspected to have TB or those on immunosuppressive drugs or with immunosuppressive conditions. This is in contrast with the previously held standard of 10 mm or more for a positive PPD.
2. Improving the laboratory diagnostic capabilities of TB is of significant importance. The recent introduction of new equipment in the Public Health TB laboratory needs to be reinforced by improvement in the accurate antibiotic susceptibility testing of all TB isolates. New modalities of diagnosis that achieve the rapid identification of cases

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by gene amplification using the polymerase or ligase chain reactions (PCR and LCR) from clinical specimens such as sputum or cerebrospinal fluid[12] need to be made available. Currently, several of these modalities are available commercially and can be used to identify TB genomic material within 6 hours of receipt of a processed sputum specimen.

3. To assure that the highest standards of care be achieved, the newly formed TB control committee has a significant role. The emphasis should be on improvement in the clinical and diagnostic abilities at the primary health care level, together with applying clear recommendations for treatment, as clearly mentioned in the WHO publications[10]. It is hoped that any new guidelines; especially those pertaining to therapy will make it clear for patients to receive the appropriate treatment for the correct time. Contact tracing is to be emphasized especially in newly diagnosed pediatric patients. The responsibility for initiating and assuring appropriate contact tracing is the responsibility of the primary health care professionals and the community at large, as well it needs appropriate attention from the health care policy makers.

4. Completion of therapy for the total prescribed time is a critical factor in preventing the spread of TB in the community and in decreasing the incidence of MDRTB. It has been clearly demonstrated that the utilization of directly observed therapy (DOT) achieves a completion rate of 90% for pulmonary TB treatment . No figures are available locally on the rate of TB treatment completion. DOT needs to be considered as a method of proven benefit if upon review of the local experience a large default rate in TB treatment is found.

In summary, although there is no significant change in the yearly incidence of TB in Bahrain, no assurances can be made for the situation in the near future. The factors that were noted at the period just preceding the resurgence of TB in the United States; namely AIDS and MDRTB; are of significant concern now in Bahrain, if this trend continues then a significant resurgence of TB locally would not be far behind. The efforts of the health care authorities should concentrate on prompt and accurate diagnosis of cases, adequate reporting and comprehensive contact tracing. Assurances need to be made that any policies regarding treatment will make it easier rather than more difficult for patients to receive the appropriate therapy. We cannot afford missing on treating one case, because the consequences can be quite serious on the individual patient and his immediate contacts, and on the community at large.

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