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**Clinical tuberculosis: Diagnosis and treatment,**

R. Prasad, N. Gupta [Jaypee Brothers, Medical Publishers (P) Ltd., New Delhi] 2015. 638 pages. Price: Not mentioned.

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This book has 50 chapters covering almost all aspects of tuberculosis including epidemiology, clinical presentation, diagnosis and management of HIV and TB. Other important areas such as paediatric tuberculosis, TB and diabetes, geriatric tuberculosis, prevention of TB and infection control of tuberculosis have been included to give a wider perspective of the disease. Some of the coloured photographs including bronchoscopic findings have also been included in the book. Various radiographic pictures in particular are good. However, the chapter on RNTCP is not included in the book.

The various chapters have been written from literature review as well as from practical experience gained by the senior author. The description is simple and easy to understand. The book is recommended for undergraduate, postgraduate and post-doctoral medical students, practitioners and programme managers for TB control for practical guidance.

The book starts with the history of tuberculosis with emphasis on the landmarks in the treatment. The authors have highlighted the discovery of the TB bacillus, discovery of BCG vaccine, discovery of various anti-TB drugs, the contribution of Tuberculosis Research Center (now, ICMR-National Institute for

Research in Tuberculosis), Chennai, in the area of TB control, in particular the utility of ambulatory and domiciliary treatment of TB which is equally effective. The evolution of DOTS (Directly Observed Treatment, Short Course) has been further discussed. The section also describes the role of National Tuberculosis Institute, Bengaluru and the evolution, success and failure of the National Tuberculosis Control Programme and its failure. The era of short course chemotherapy and the importance of MDR-TB management through the DOTS-Plus strategy have also been discussed. The chapter has 38 appropriate references.

Chapter two describes the case definition of tuberculosis that is more important for uniformity world over and comparison of data observations. The types of tuberculosis as pulmonary and extra-pulmonary TB with type description as adopted by the WHO and the RNTCP are also discussed. Similar descriptions have been given for MDR/XDR-TB. Treatment outcomes both in the drug susceptible and drug resistant cases have been explained clearly.

Epidemiology of tuberculosis and its various indices like incidence, prevalence and mortality have been explained in detail. Indices such as prevalence of infection, incidence of infection, and the annual risk of infection (ARI) have also been explained in detail. ARI has many disadvantages and recently it has lost its relevance. A detailed account of how surveys are carried out and the advantages and disadvantages of surveys in tuberculosis have been given. The chapter gives an estimate of the Global as well as Indian burden of TB although the data are a bit old. Some of the local/regional survey data are also quoted.

The fourth chapter deals with the clinical presentation of TB. It starts with congenital tuberculosis and primary tuberculosis. A table of development of clinical tuberculosis in various organs have been given. The complications due to TB have been elaborated in detail. It has been mentioned that post-primary tuberculosis is the most important type of tuberculosis. The pathology and pathogenesis have also been mentioned in the chapter.

Miliary tuberculosis, endobronchial tuberculosis, and tuberculosis in the lower lung fields are mentioned in separate chapters with a vivid description. Hemoptysis, which is a major and common presentation of tuberculosis is discussed in a separate chapter (chapter 8). Aetiology of tuberculosis and how to distinguish it from hematemesis have been

described well. As most patients will complain of ‘vomiting of blood’ it is very important to distinguish between the two. Investigations of hemoptysis, radiological features of different conditions producing hemoptysis and management have been discussed. Newer techniques like bronchial artery embolization should have been described more elaborately. The next chapter deals with various diagnostic techniques, their pitfalls, usefulness and interpretation. These include tuberculin skin test, IGRA (Interferon Gamma Release Assay), radiology, microbiology and PCR. Various serological tests that may be helpful and useful in future have been mentioned to give a complete profile of various diagnostic tests in TB. The authors have rightly mentioned about the recent ban on import or sale of TB serological tests except for research purposes. Role of bronchoscopy and other tests like FNAC (Fine Needle Aspiration Cytology), ADA (adenosine deaminase) and tests for TB meningitis got only a brief mention. Although the PCR has been mentioned, a detailed discussion on Gene Xpert and LPA (Latex Particle Agglutination) was also required as these tests are being used more frequently in the country and the RNTCP. Chapter 10 mentions the differential diagnosis of TB and conditions that mimic tuberculosis. A separate chapter discusses the issue of post-tubercular obstructive airway impairment which is a very important issue in the developing countries with high burden and late presentation of TB.

There are separate chapters on the anti-tubercular drugs used in newly diagnosed and previously treated cases of TB. Detailed pharmacology is discussed for each drug. Chapter 15 describes the basis on which the tuberculosis treatment works. Basic concepts of anti-TB drug usage and their usefulness has been mentioned in Chapter 16. Anti-tubercular drug regimen, their dosage in daily and intermittent therapy, both in adults and children, are given in tabular form in chapter 17. Various treatment categories recommended by the WHO are also presented in tabular form. There is a chapter about the duration of therapy, which was perhaps not needed as a separate chapter. Chapter 19 describes the treatment of TB in association with liver and renal diseases and during pregnancy. Chapter 20 is a case based treatment approach wherein few case scenarios are given in association with these conditions. This is quite interesting and a good approach such that the reader can understand the issues better. Different types of extra-pulmonary tuberculosis are described in a

chapter. These could however, have been described in more detail. The management of retreatment cases in TB has been mentioned again as a separate chapter. Although this seems to be a repetition, a more detailed account has been presented. This is important because this group of patients is more difficult to handle. Drug resistant TB and MDR-TB have been discussed more extensively including the current status. The epidemiology and management of these groups of TB have been discussed more vividly and adequately. Chapter 26 provides a case based management approach for MDR-TB. Six different case scenarios have been given perhaps from the authors own experience. Monitoring and adverse drug reactions concerning treatment of MDR are discussed well. A separate chapter is on the management of MDR-TB in special situations like pregnancy, breast feeding issues, contraception, children, diabetes mellitus, renal insufficiency, liver disorders, seizure disorders, substance dependence and psychosis. This is important as treating TB with these associations is quite challenging and requires special expertise. There is also a chapter on the management of contacts with MDR-TB. Prevention of MDR- and XDR-TB has a place in a separate chapter. The current status and approach to management of XDR-TB has been described in chapter 31. The role of surgery, HIV and XDR-TB and children with XDR-TB have separate mentions. BCG and chemoprophylaxis of TB are also discussed in separate chapters. TB control in India has been mentioned and discussed in a more detailed manner like the DOTS and DOTS Plus (now known as PMDT-Programatic Management of Drug Resistant TB). TB and HIV have been mentioned in a separate chapter. This chapter describes about the epidemiology, impact on each other, diagnostic difficulties, revised staging of HIV/AIDS and management. Drug interaction between anti-tubercular drugs and anti-retroviral drugs has been covered adequately. Separate chapters on TB and diabetes, TB and pregnancy, are also included. Tubercular pleural effusion and lymphadenitis, have specifically been discussed as these are the commonest forms of extra-pulmonary TB. Chapter 43 describes TB in children and its various aspects, and different issues associated have been discussed. Tuberculosis in the elderly, gastrointestinal TB and urogenital TB, have been covered in separate chapters. Most importantly, non-tubercular mycobacteria or atypical mycobacteria are discussed in chapter 49. An important and often forgotten issue of infection

control in tuberculosis has been mentioned in chapter 50. The focus of discussion includes the importance of infection control, situation in this country and what could be done.

Overall, this, it is a good handbook for practicing physicians and students of TB.

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