

Title:

Childhood Tuberculosis: Modern Imaging and Clinical Concepts

Principal authors:
Professor Bryan Cremin and Dr Douglas Jamieson

Publisher:
Springer-Verlag, London, 1995

Pages:
122

This beautifully presented book containing 141 figures is pleasing to handle and to read. The headings of the eight chapters give a very fair indication of the content of the book. In an abbreviated form these read :

- Historical and pathological background
- Biology of the organism and the host pathogen response
- Pulmonary tuberculosis
- Central nervous system tuberculosis
- Abdominal tuberculosis
- Skeletal tuberculosis
- Clinical spectrum and diagnosis, and
- Drug treatment and resistance

The book is extremely relevant to almost all disciplines of medical practice but is directed at the practising radiologist. The principal author has a long-standing interest in the radiology of tuberculosis in childhood and has built up a vast "hands on" experience. This fact is clearly discernible in the book.

The four chapters which form the radiological focus of the book are based on system involvement by the disease. Each chapter starts with a descriptive outline of the various forms of radiological investigation of that particular system. The approach is practical, with clearcut opinions. Extremely useful information is given in the actual performance of certain examinations, such as the high kilo-voltage filtered chest radiographs.

The accompanying pictures are mostly easy to interpret or are clearly labelled, and follow the text closely. The protean radiological manifestations of primary pulmonary tuberculosis are emphasised. This is especially evident in patients with immune deficient states. The authors stress the importance of reviewing the full series of chest radiographs as this often influences one in considering the likelihood of the disease being tuberculosis. The hallmark of the disease is lymphadenopathy which occurs in 63-95% of x-rays, especially in the younger child. They again emphasise that a normal chest radiograph does not exclude pulmonary tuberculosis. The radiological picture of disseminated pulmonary disease is usually not that of diffuse equal-sized small nodules. There is often a linear component to the opacities, and confluent opacification.

In the chapter on cerebral tuberculosis, the authors emphasize the difference between the two forms of necrosis which occur in tuberculomata: the gummatous type, and the purely cellular form which includes caseous necrosis. They describe the Computer Tomographic and Magnetic Resonance images of these various granulomata.

The authors often refer to the rim enhancement which occurs in nodes after intravenous contrast administration. They also emphasize that tuberculous osteo-arthritic disease is often an indolent, painless process, and hyperaemic loss of bone visualization is frequently an early manifestation. Linear tomography may often show lytic bone areas not appreciated on plain films.

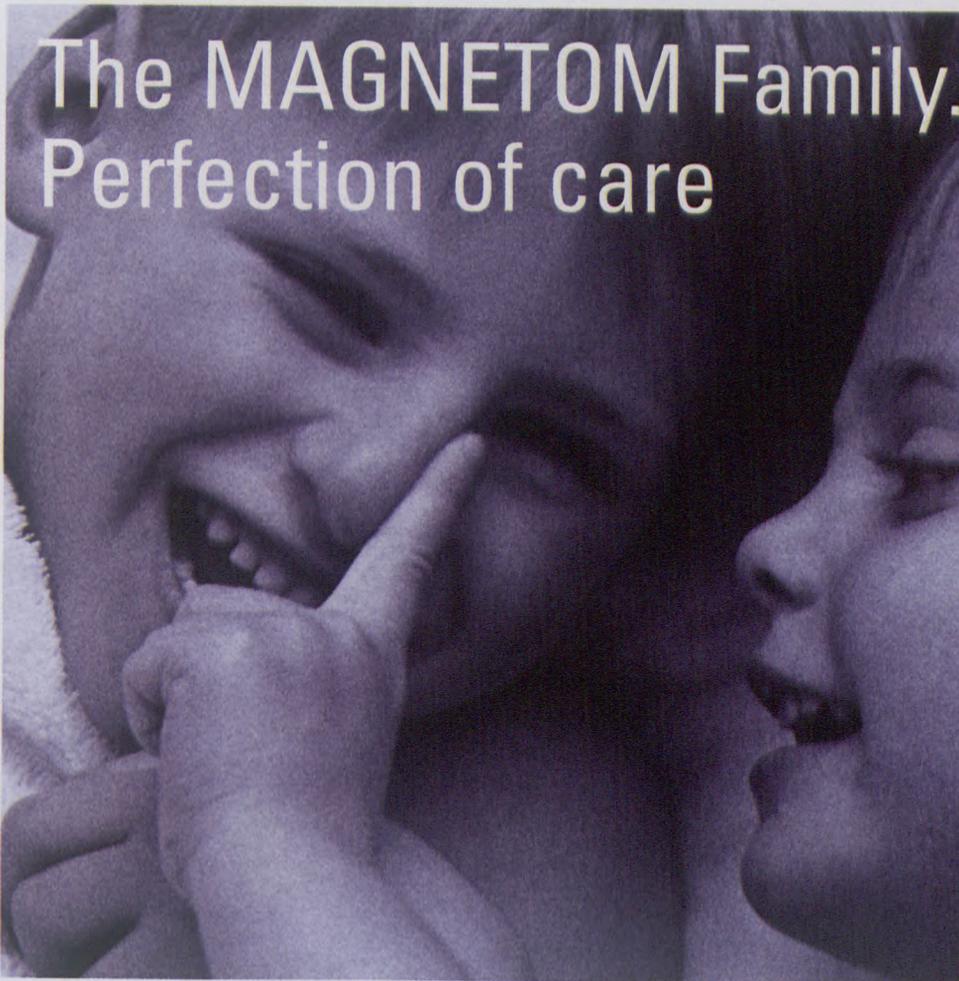
These chapters on systemic tuberculosis end with a list of other conditions which could simulate the radiological changes seen in tuberculosis. Practical tips are given in differentiating between these conditions. The approach is realistic and clearly based on actual experience.

The four remaining chapters are each written by an expert in that field. The statistics are awesome. Eight to ten million new cases and three to five hundred thousand deaths from tuberculosis occur each year. Children are especially susceptible to disseminated disease, and the incidence in sub-Saharan Africa is particularly high.

The pathological change which occurs in the disease is clearly explained, and the biological and host-pathogen relationship of *Mycobacterium tuberculosis* is vividly detailed with clear, well illustrated diagrams. It is generally accepted that the bacillus can remain dormant in a macrophage or in a granuloma for years or decades. The genetic basis of resistance and susceptibility to the bacillus is briefly explained. The possibility of developing a protective vaccine is discussed.

Professor Kibel gives a brief but clear outline of the clinical spectrum and diagnosis of the disease, and Professor Donald emphasises the indications,

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from page 20

uses, actions and side effects of the drugs used to treat the condition.

This reviewer read through the book three times and gained a little more on each occasion. He enjoyed the experience and congratulates all the authors for an important contribution to the understanding and diagnosis of a most important condition.

Reviewer:

Prof Hillel Goodman,
Groote Schuur Hospital

Title:

Clinics in Diagnostic Imaging

Author:

Wilfred Peh

Publisher:

Miller Freeman

Price:

USD 15

Pages:

255

ISBN 981 04 01337

This book consists of 30 case presentations with radiological images and a discussion with each case. The cases cover all important areas of imaging from head and neck to gynaecology. The images are of good quality. The discussions are excellent with current references. This book will be very useful for registrars preparing for the final fellowship examination.

OBITUARY

Allan Cormack

Allan Cormack shares the distinction of having founded the mathematical principles of the image reconstruction techniques used in Computerised Tomography and Magnetic Resonance, together with Sir Godfrey Hounsfield. He also had close ties to the University of Cape Town Physics and Radiology Departments, where he made his important mathematical deductions in 1957.

Born in Johannesburg, he matriculated at Rondebosch Boys High, and received his MSc in Physics at UCT in 1945.

His original work on resolving the problems of axial imaging was based on a phantom made of an aluminium cylinder surrounded by a wooden cylinder, together with the use of radioisotopes to confirm his mathematical suspicions. He published these findings in 1963 and 1964, establishing the core logic of axial tomography, which Hounsfield took to commercial completion. At the time of his momentous discovery he was working in the Radiology Department supervising the

clinical use of isotopes. He particularly acknowledged the contributions of Professor RW James of the UCT Physics Department, and Dr Muir Grieve, a Groote Schuur Hospital Radiotherapist, in encouraging him to make his discovery.

He was awarded the Nobel Prize for Physiology and Medicine together with Sir Godfrey Hounsfield in 1979. He is only one of three South Africans to have won a scientific Nobel Prize (with Max Theiler and Aaron Klug).

He later worked at Cambridge, Harvard and subsequently Tufts University, where he became Chairman of the Department of Physics.

The first CT scanner was placed into clinical service in London in 1971, and his insight has since gone on to revolutionise our profession.

He died on 9 May this year at his home in Winchester, Massachusetts at the age of 74.

Acknowledgements

UCT Monday Paper, May 18-25, 1998, Vol. 17: No 13; Obituary, Emeritus Professor of Physics, Robin Cherry, Sunday Times

Advance notification of Chest Radiology Congress

The University of Pretoria is planning a Congress for 10-12 February 2000.

Topic: "Chest Radiology- Adult and Paediatric"
Venue: CSIR, Pretoria
Please make a note of this in your diary if you are interested
Further details will be forthcoming
Congress Co-ordinator: Dr LL Sirkin

Congress Chairman: Prof SF Prinsloo
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