R.L. Mittal: CLUBFOOT—A Comprehensive Approach (Past, Present, and Future)

Publisher: CRC Press, Taylor & Francis Group, Boca Raton, FL: USA, 2019

Ashok N. Johari¹ · Farokh Wadia²

Published online: 12 October 2020
© Indian Orthopaedics Association 2020

Prof. R.L. Mittal, Past President of the Indian Orthopaedic Association, is a well-known name in India, famous for his researches into the pathoanatomy and management of the untreated clubfeet presenting at different ages. Over 50 years of hard labour has seen fruition with the publication of this book. In recognition of this landmark life time research, he was awarded all three original research awards of the Indian Orthopaedic Association viz. the Silver Jubilee Award in 1988, Golden Jubilee Award in 2013 and the Diamond Jubilee Award in 2018. Prof. Mittal is still continuing this research.

This book is unusual not only because of the academic flow of knowledge between its pages but also for the inspiration it gives to young surgeons and researchers through sublime thoughts of the author and other famous scientists. It is a living example of Swami Vivekananda's quote mentioned in this book **“Take up an idea, think it, dream it and live with it till it is realized”**.

Chapter 1 is the *INTRODUCTION*, which gives a background to the book with the circumstances leading to the author's interest in clubfoot and a clarion call to this area of orthopaedics. There is also an explanation of the next five chapters which follow as below:

Chapter 2 is a very detailed exposition of the *EPIDEMIOLOGY* of Clubfoot. It includes the different classifications, etiological factors in the causation, ethnicity and genetics, syndromes, association with maternal smoking, medications, nutritional deficiencies and other diseases, uterine factors, socioeconomic and environmental factors, etc. It is a very authoritative and exhaustive review of the current state of knowledge in this field and will be of use to all interested in knowing more.

✉ Ashok N. Johari
drashokjohari@hotmail.com

¹ President Elect SICOT, Children's Orthopaedic Centre, Mumbai, India

² Consultant Orthopaedic Surgeon, Manchester Children's Hospital, England, UK

Chapter 3 is an exhaustive *REVIEW OF LITERATURE* on the management of clubfeet with a discussion on the various modalities used. Many techniques with their pearls and pitfalls are discussed. Notable amongst them are the Ponseti method, distraction techniques like the JESS, UMEX and Ilizarov, soft tissue surgeries and bony surgery of different types. The review also covers the limitations and where available, the long-term results of these techniques. *Assessment* protocols and role of radiology, ultrasound, CT and MRI scans are discussed. On page 36 (top right), the very high incidence of residual deformities and relapses reported in the literature, become more evident as the child grows.

Chapter 4 deals with a review of the *PATHOANATOMY* of clubfeet and is based on the author's unique experience of the dissection of 15 still born with clubfeet. Much stress is laid on the posteromedial skin contracture and pathology involving the ankle, subtalar, mid tarsal and tarsometatarsal joints. Axes and planes of movements have been explained beautifully in a simple way in section 4.2. This pathoanatomical understanding forms the basis of the author's operative management of clubfeet with an increasing surgical intensity, each in 3D, proportional to the severity and rigidity of the deformity. The basis and evolution for the three phases of need based research resulting in triple surgical fasciocutaneous expansion techniques, combined with a subtotal subtalar release (SSR)—DOLAR (DOrsoLateral Rotation flap), DOLARZ (with one or more medial z-plasties) and the DOLARZ-E (extended) with a distal VY plasty are described. Pathoanatomical insights uniquely gained by the author are discussed.

Chapter 5 is *ON EXTREME CLUBFOOT DEFORMITIES AND THEIR MANAGEMENT* and describes the details of the author's surgical techniques for dealing with, highly prevalent, extreme severities of clubfeet *classified in 3 grades*. Besides the description of the surgical techniques, there is a *rich collection of 27 illustrative cases of different types, including five cases of failed Ponseti technique*. Although the surgical steps and descriptions are elaborate, a picture does speak a thousand

words, and some of the pictures could have been larger, maybe a limitation, imposed by the publishers. However, *a keen observer can scan the pictures and ZOOM in any one of them to see the larger view on a computer for confirmation*. Even with a simple magnifying lens, the pictures can be seen with an improved image. The mega techniques are abundantly evidence based on numerous plastic surgery references.

The final chapter (**Chapter 6**) deals with the *FUTURE OF CLUBFOOT*. It talks about the necessity for population control and control of known epidemiological factors and genetic advances for prevention. The positives and limitations of different techniques and the utility of the techniques originated by the author for extreme clubfeet are reiterated. Every clubfoot is pathoanatomically different *AT BIRTH*, as emphasized by the author and hence treatment is individualized. Author has treated creditably, all extreme clubfoot deformities, by his techniques and that too without fusing any bones, getting a longer, flexible, good looking better functioning foot on long term with better patient satisfaction.

This Clubfoot book by Prof. R.L. Mittal is a valuable addition to the bookshelf of an orthopaedic surgeon and is definitely a must for libraries. It makes for good general reading of the epidemiology, genetics, pathoanatomy and review of treatment methods. However, the main focus is on the techniques devised by the author to deal with severe and rigid club foot deformities, starting at birth itself and getting complicated with inadequate contemporary treatment protocols with increasing age. The author's techniques however, remain a valuable addition to our armamentarium in the fight against clubfeet for the extreme deformities which we still encounter in LMIC's, in fairly large numbers at present.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.