

Preface

“We know from our clinical experience in the practice of medicine that in diagnosis, prognosis, and treatment, the individual and his background of heredity are just as important, if not more so, as the disease itself” (Paul White). Technological developments in cytogenetics resulted in establishing the number of chromosomes in human beings as 46 in 1956, though the chromosome complement of various organisms was known in the previous century itself. Diagnostic cytogenetics had its birth in 1959 and showed the association of chromosomal defects with various diseases and human cytogenetics is now a rapidly progressing field of interest, in biomedicine.

Advances in cytogenetic technology have helped in the elucidation of chromosomal morphology to unravel aberrations at various levels and their association with different diseases. These advances comprise of banding techniques including high resolution banding procedures, fluorescent *in situ* hybridization, spectral karyotyping, comparative genomic hybridization including array CGH technology and sequencing, thus resulting in a new branch of cytogenetics, namely, molecular cytogenetics.

In the initial stages, when the special issue

on ‘Chromosomal Abnormalities Reported in India’ was proposed to be brought out as per the suggestion of Prof. Dr. M.K. Bhasin, the idea was to compile data in the format brought out by Prof. D.S. Borgaonkar of USA. This, however, was not feasible, and it was then thought to compile papers on this aspect from various laboratories spread throughout the country. Manuscripts on clastogenicity induced by physical and chemical agents were not accepted for inclusion. Twenty six papers included in this issue are on microdeletion syndromes, mental retardation including Down syndrome, satellite association in Down Syndrome, tropical chronic pancreatitis, primary amenorrhea, sexual ambiguity, prostatic hyperplasia, cardiac defects, application of QF-PCR, and others.

We are indebted to Dr. Prochi Madon of Jaslok Hospital, Mumbai for valuable suggestions. We are grateful to Prof. Dr. Jai Rup Singh of Punjab Central University, Bhatinda, Dr. N. Chandra, University of Madras, Chennai, Dr. Roshan Mascarenhas, Dr. T.G. Vadudevan and Dr. Girisha Katta of our University for their help in editorial work.

We wish to thank Prof. Dr. M.K. Bhasin for his help in encouraging our efforts and his desire in bringing out this special volume.

Manipal Life Sciences Centre
Manipal University, Manipal 576 104
February 2010

Prof. P.M. Gopinath and
Prof. K.Satyamoorthy
(Guest Editors)