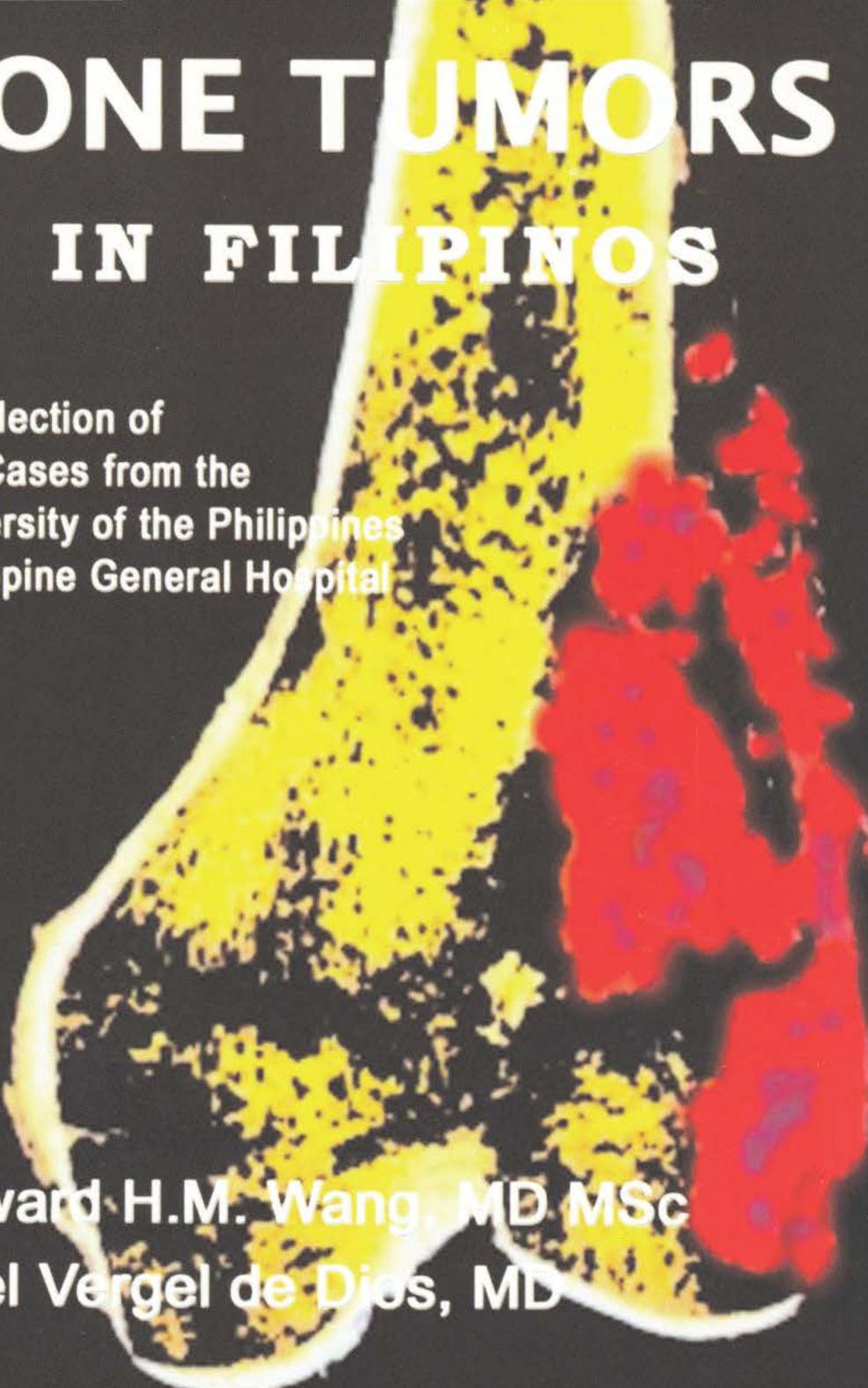


# **BONE TUMORS IN FILIPINOS**



**A Collection of  
876 Cases from the  
University of the Philippines  
Philippine General Hospital**

**Edward H.M. Wang, MD MSc  
Ariel Vergel de Dios, MD**

*Foreword by Prof. Robert S. Bell*

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## in Filipinos

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### Contributors

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Albert Jerome D. Quintos, MD

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## FOREWORD

Dr. Edward Wang and his colleagues from the University of the Philippines Musculoskeletal Tumor Unit need to be congratulated for this remarkable book. This book is extremely well organized and offers information in a straightforward fashion that can be appreciated by a neophyte student or an experienced clinician. In particular, this work will be appreciated by surgical trainees who will organize their differential diagnosis and work-up of patients using the concise framework that Wang et al have provided in Chapter II. Bone tumors can seem remarkably intimidating to surgical and medical trainees. The myriad diagnostic groupings, the relatively low incidence and prevalence of many diagnoses and the commonly subtle differentiation of benign from malignant disease make bone tumors a source of anxiety for even experienced practitioners. However, the authors' lucid classification and well-chosen examples will help any clinician well to adopt an orderly approach to differential diagnosis and management.

It is always difficult to draw conclusions about cultural determinants in disease incidence from the experiences of a single group of investigators rather than a population based analysis of all cases. However, the evidence presented by Wang and other observers seems consistent with the hypothesis that Giant Cell Tumor may be more common in Asia than in Western nations. The reasons for this possible difference in incidence may offer intriguing opportunities for understanding the molecular origins of these fascinating benign aggressive bone lesions.

Edward Wang and Ariel Vergel de Dios represent enormous assets to the patients of the Philippines. They have taken extraordinary care of patients presenting with difficult clinical problems. They have also taken the care to document their presentation, treatment and outcome. Their diligence in documentation now provides us with a book that offers very clear illustrations of diagnostic images and histology as well as consistent approach to description and analysis. This book will be an asset to trainees in Asia and around the world and reminds us of the impact of two dedicated doctors.

***Robert S. Bell, MDCM, MSc, FRCSC, FACS  
President and Chief Executive Officer, University Health Network  
Professor of Surgery, University of Toronto  
Toronto, Ontario, Canada***



## PREFACE

Musculoskeletal tumors have always been a challenge to physicians, including orthopaedic surgeons. Historically, the management of these lesions was disorganized, often resulting in poor functional and oncologic results; treatment outcomes improving only as institutions around the world began to collect and analyze their data. The first attempts at collection by the Philippine orthopaedic community in the 1970s-80s consisted of case series of common bone tumors, including osteogenic sarcoma and giant cell tumor. These were undertaken by Dr. Norberto Agcaoili at the Philippine General Hospital along with other like-minded surgeons from the National Orthopaedic Hospital.

Medical, surgical and oncologic advances over the past 2-3 decades have changed the management of these tumors drastically. Treatment is, today, multidisciplinary and not the monopoly of surgeons; mutilating amputations have been replaced by limb saving surgeries; malignant tumors are now subjected to induction chemotherapy; multiple adjuvants are used for benign aggressive tumors; all of these resulting in vastly improved function and survival.

The University of the Philippines-Musculoskeletal Tumor Unit, otherwise known as the UP-MuST Unit, was formed in 1993, initially involving only one orthopaedic surgeon, one musculoskeletal tumor pathologist, and one medical oncologist. Although work was frequently difficult, the team gradually inched up the learning curve and in its growth, began to involve other specialties, such as the pediatric oncologist, cancer psychiatrist and nurse, physiatrist, microvascular and plastic surgeons; today becoming one of the most active teaching, service, and research Units of the University of the Philippines-Manila.

At the same time, the Unit has, from its inception, patiently collected and documented all of its cases, including patient records, radiographs, and histologic material. This book is an accurate reflection of this collection and is, we believe, significant on three counts. First, it provides an opportunity for review of the Unit's treatment protocols, thus allowing improvement of the service we provide our patients. Secondly, it is a vast resource for anyone interested in the further study of these conditions. Finally, it represents one of the first attempts in Philippine Medicine to provide a large collection of detailed Filipino data. It can be done!

We have decided to limit our book to the clinical, radiologic, and histologic description of the lesions as our objective is mainly "recognition" of tumors. Treatment options and the Unit's treatment outcomes are not included here and are reported in scientific articles, presentations, and reports in other fora and media.

Despite all the new and expensive medical technology available today, musculoskeletal tumors often remain unrecognized and consequently undiagnosed, misdiagnosed or mismanaged. Through this book, it is hoped that awareness can be raised, especially among the medical and allied medical communities, of these most interesting and ever-increasing neoplasms.

E. H.M. Wang



## ACKNOWLEDGMENTS

A work of this magnitude can never be the creation of one or two people. This book is the product of many years of diligent collection, collation, and analysis, made possible only with the support of a long list of institutions and people, many of whom will never be adequately compensated for the amount of work they have contributed.

We thank the University of the Philippines for awarding us a book-writing grant. This fund, while barely sufficient to last the first 2 years, certainly provided the seed and the impetus to begin this extensive and most rewarding undertaking.

We thank sincerely our 3 reviewers, Professor Robert S. Bell of the University of Toronto, Professor K. Krishnan Unni of the Mayo Clinic (external reviewers) and Professor Rafael S. Recto, Jr. of the University of the Philippines (internal reviewer). It has been over a decade since we trained under these 3 eminent men and till today, they continue to be our mentors and role models.

We will always be grateful to Ma Victoria Serrano and Charlie Mendoza, our research assistants, and May Turqueza, our Tissue Bank Laboratory Technician, who, like meticulous archeologists, literally dug up data from under the dust and “ruins” of our records to put together the pieces of these excavations into a modern, comprehensible, computerized form.

We thank our friends at the Surgical Pathology Section of the Philippine General Hospital (Esmie Talplacido, Gorgonia Mendoza, Elisa Rodriguez, Mario Antonio, and Felipe Callueng) and those at Anatomic Pathology at the College of Medicine (Baby Cuntapay, Tetchie Matias, Bella Amor Fresto, and Noly de Mesa) for tolerating our incessant pestering and follow-up of results and for making sure not only of the promptness but also of the accuracy of our histopathology reports.

Through the years, our residents and fellows at both the Departments of Orthopaedics and Pathology have assisted us in the clinics, in surgery, in rounds, in our researches. Most importantly they have never ceased to ask us “questions we cannot answer.” Special mention must be made of Dr. Jet Luna who spent many extra hours interpreting piles of radiographs, Dr. Mike Mostales who spent just as many hours taking photomicrographs of the pathology slides, and Dr. Isagani Garin, our Tumor Fellow from Baguio General Hospital without whose help our list of references could not have been streamlined. We also thank Dr. Maia Celeste Alix-Arbatin for the beautiful cover she designed for the book.

We are indebted to colleagues at the UP-MuST Unit and Study Group for taking care of the myriad tumor patients from whom they earned little to no compensation. These include Gracieux Fernando, Trixie Jayme-Tiangco, Gerry Cornelio (medical oncology), Amy Goleta-Dy, Luz del Rosario (pediatric oncology), Benjamin Vista (cancer psychiatry), Herman Tolentino, Grace Banson-Herbosa, Tina Arenas-Corleto (pain and anesthesia), and Edwina Bulatao (nursing). Similarly, we thank our surgical colleagues: Leo Daniel Caro, Vicente Castillo, Jovito Angeles, Emmanuel Estrella, Tammy dela Rosa (microvascular & reconstructive surgery); Peter Bernardo, Gregorio Azores (joint reconstruction); Jose Manuel Ignacio, Adrian Catbagan (spine surgery) and Juanito Javier (Ilizarov).

This book would not have been possible without the tolerance and patience of our wives Aileen and Nanette, and our children, who understood the painstaking demands of book-writing and who unconditionally gave their full support to such an undertaking.

Finally and most especially, we thank our patients, for whom musculoskeletal tumors are not theoretical or surgical knowledge but are real life experiences, sometimes painful, sometimes joyful, always life-changing. Through them, our knowledge has grown and we will always marvel at how our Filipino patients, despite the overwhelming socio-economic odds stacked against them, maintain their humor, their courage, and their grace. To them we dedicate this book.

E.H.M.Wang &  
A.M.Vergel de Dios

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