
Contemporary Oral Oncology

Moni Abraham Kuriakose
Editor

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Diagnosis and Management

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To my parents for igniting the fire for gaining and sharing knowledge

To my teachers and colleagues for keeping that fire burning

To my students for keeping me on my toes

To Rohan and Mili for keeping me grounded

To my patients for enduring our quest for cure

To Maria for being a patient partner in this quest

MAK

Foreword

Writing and editing a comprehensive multivolume text and a reference source on a focused topic is a dream of a life time for scores of academicians, but only a handful are capable of and committed to realize that dream. Dr. Moni Abraham Kuriakose is to be commended to bring that dream to a reality in the field of oral cancer. He has successfully gathered an assembly of world-class leaders from all corners of the globe to contribute to this exhaustive four-volume treatise on the current state of the art and science of oral oncology. The organization and planning of such an in-depth reference source takes deep understanding of the biology of the disease, and mastery in clinical management of the patient. The editor in chief has very carefully selected scholars from the Roswell Park Memorial Institute, coupled with others from North America, Europe, and Australasia, in the specialty of oro-maxillo-facial surgery and oncology, to have a global perspective of the disease. This provides a global perspective from different geographic regions of the world, with diverse patient populations and varied socioeconomic and cultural differences.

Although, the commonly identified etiologic agents for oral cancer are prevalent throughout the world, the biological behavior and natural history of these tumors are different in various regions of the world. For example, the presentation and behavior of oral cancer seen in South Asia is quite different than that in the western world. The authors have very elegantly delved into the biology of these differences and have highlighted the frontiers in research in this area. Similarly, practical issues in the clinical management of patients in diverse socioeconomic regions are discussed to make this a valuable resource for clinicians throughout the world.

This four-volume, in-depth, and exhaustive text presents frontiers in current research in basic sciences and the biological basis of carcinogenesis, tumor progression, metastases, and recurrence. The breadth and depth of the biology of squamous carcinoma covered in the text by global experts is impressive. Equally well covered are the chapters on diagnosis, treatment, operative technical details, and outcomes: both functional and oncologic. Each chapter is well illustrated with photographs, and superb artwork, to convey to the reader the intricate details from biological processes, to surgical techniques. Each and every chapter is accompanied by an endless list of references, to make this a “go to” resource and a reference text on the topic. This opus of oral oncology from molecular signatures to CAD-CAM technology in reconstructive surgery is a one of a kind publication on this subject published in a long time.

The four-volume set in *Contemporary Oral Oncology*, will have a solid place in the libraries of medical schools, postgraduate institutions, Cancer centers, and specialty departments in Universities. It is a wonderful state-of-the-art resource for the trainee as well as the practitioners of oral oncology, to remain current with the topic, and as a ready reference in basic and clinical research as well as day today management of patients. This exhaustive work stands alone in the presentation of biology, diagnosis, clinical care, prevention, and outcomes in oral cancer.

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Preface

Oral oncology is emerging as a distinct discipline. Comprehensive management of oral cancer requires multidisciplinary input of interconnected specialties. Every aspect of the management from diagnosis, treatment, reconstruction, and rehabilitation has biological basis. The biologic understanding of oral cancer and the treatment is changing with time. Understanding and updating developments in each of the related fields are essential to offer the patients the best possible treatment.

This book, in four volumes, is an in-depth reference guide that covers all aspects of the management of oral cancer from a multidisciplinary perspective and on the basis of a strong scientific foundation. Individual volumes are devoted to tumor biology, epidemiology, etiology, and prevention; diagnosis and treatment options; reconstructive surgical techniques; and rehabilitation and supportive care. By integrating current scientific knowledge into a manual for comprehensive care of the oral cavity cancer patient, this book is expected to fill a substantial void in the literature. Further key features are attention to the practical significance of emerging technology and the inclusion of contributions from authors in diverse geographic locations and practice settings in order to ensure that the guidance is of global relevance. The text is supported by ample illustrations and by case studies highlighting important practical issues.

There is lack of a single multidisciplinary comprehensive reference guide in oral oncology. This book is envisioned to fill this substantial void in literature. This book is intended for both trainees and practicing specialists in oral oncology. During my training, clinical practice, and research, I had the opportunity to gain knowledge and skills from different disciplines that includes dentistry, medicine, oral and maxillo-facial surgery, general surgery, otolaryngology, plastic surgery, and basic science research spanning three continents. This unique opportunity provided me an insight into the importance of cross-fertilization of ideas from different disciplines and geographic regions. This book is an attempt to impart that principle to the field of oral oncology.

The first volume is dedicated to tumor biology, epidemiology, etiology, emerging role of cancer stem cells, and the prevention of oral cancer. It opens by discussing oral carcinogenesis in general and the role of different carcinogens and human papillomavirus, in particular. Global epidemiology and changes in disease prevalence are then addressed. Up-to-date information is provided on emerging cancer biomarkers, and the biologic basis of personalized therapy is explained.

Histopathological features of malignant and premalignant neoplasms and their relevance to management are described. Further chapters focus on the current status of chemoprevention, the management of oral submucous fibrosis, and the value of various diagnostic adjuncts. This volume concludes by critically evaluating the efficacy of oral screening methods.

The second volume deals with diagnosis and management of oral cancer. This volume addresses a range of management issues in oral cancer, from imaging and staging through to the roles of radiation therapy and chemotherapy. Principles of ablative surgery are explained, and neck dissection and sentinel lymph node biopsy techniques are described. Detailed consideration is also given to the management of complications, salvage surgery and re-radiation, the biologic basis of treatment failure, and emerging approaches to overcome treatment resistance. The inclusion of resource-stratified guidelines will meet the needs of practitioners in different geographic regions with varying resources.

The third volume is devoted to the reconstructive surgical techniques used in patients with oral cancer. Following introductory chapters outlining the general principles of reconstructive surgery in the oral cavity and the planning of maxillofacial reconstruction, detailed descriptions of the options and techniques employed in reconstruction of each of the functional subunits are provided. Important technological advances are also discussed, including image-guided surgery, robotic surgery, and tissue-engineered and prefabricated approaches. Finally, the current status of face transplantation for maxillofacial reconstruction is reviewed.

The last of this four-volume book deals with the most important and often neglected aspect of rehabilitation and supportive care. This volume focuses on the topic of comprehensive rehabilitation and supportive care in oral cancer. The coverage includes the role of maxillofacial prosthodontics, advances in anaplastology techniques, and management of oral mucositis during radiation and chemotherapy. Holistic and supportive care approaches are discussed, and advice is provided on post-therapy surveillance and the use of different measures to assess quality of life. Nutritional evaluation and management and issues relating to healthcare economics are also considered. This volume will be of interest both to practicing specialists and to ancillary service staff involved in the care of oral cancer patients.

This book was authored by leaders in the field from diverse medical disciplines and geographic regions. I thank the authors whose expertise and hard work that has distilled a vast body of information into a clear and detailed discussion of various aspects of oral oncology. I would like to express my thanks to the Springer Nature for supporting me in developing this book, to Wilma McHugh for project management and constant support, and to Abha Krishnan and Eswaran Kayalvizhi for the editorial assistance.

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