



## Book Review

**Oesophageal adenocarcinoma: Methods and protocols**, A.K. Lam, editor (Humana Press, Springer Science + Business Media LLC, Switzerland) 2018. 296 pages. Price: Not mentioned.

ISBN 978-1-4939-7734-5

This book is a comprehensive review of the various aspects of adenocarcinoma of the oesophagus written by world-renowned experts in their respective fields. Oesophageal adenocarcinoma is highly prevalent in the western world and is the sixth most common cause of cancer death worldwide. This increasing trend is seen not only in the West but also in India and in the Far East. There are various factors accounting for this trend, the foremost amongst these being the change in lifestyle, diet and reflux disease. Therefore, this all-inclusive review of oesophageal adenocarcinoma is relevant in this era of increasing incidence of this cancer in our country.

This book starts with an introduction of the basic features of oesophageal adenocarcinoma, and explains how the most likely opportunity for improving outcomes is by adoption of multidisciplinary research and management teams. This book is a multidisciplinary update involving the various specialities including radiotherapy, chemotherapy, targeted therapy, surgery and pathology including molecular pathology. This multidisciplinary input remains the highlight of this publication.

The next three chapters are brief but comprehensive reviews on various aspects of chemotherapy, radiotherapy and surgical aspects of management of this cancer. The chapter on surgical management is well written with operative photographs with tips and tricks on how to manage difficult intraoperative and postoperative complications such as leak, chylothorax, recurrent nerve injury and conduit ischaemia.

Targeted therapy for oesophageal cancer and other novel treatment strategies are reviewed in the following

chapter. The currently available targeted therapy based on epidermal growth factor, vascular endothelial growth factor (VEGF) and others are discussed in detail. In the era of personalized therapy for oesophageal carcinoma, this chapter provides an overview and update on the various targeted chemotherapy regimens available currently and those in the horizon.

The next two chapters the histopathological assessment of this cancer. The WHO histological classification and the various subtypes are described in detail. The tumour regression grading following neoadjuvant therapy is described but could have been in more detail. It is commendable that the authors have included a chapter on pathologic assessment of tissue including the techniques of grossing, cutting and staining of pathology specimens. This information provided is appropriate and essential for any researcher dealing with basic research on adenocarcinoma of the oesophagus. Other techniques such as tissue microarray in adenocarcinoma, its advantages and disadvantages and related trouble shootings are also explained in detail. This again is an area many may not be familiar with but is a must know for any researcher on the topic.

Chapter 11 deals with human epidermal growth factor receptor 2 (HER2) and its application in oesophageal adenocarcinoma. Targeted therapy in HER2-overexpressed cancers offers a novel treatment option with the drug trastuzumab, particularly in the metastatic setting. The trastuzumab for gastric and gastro-oesophageal junctional adenocarcinoma trial had shown clinical and significant benefit in response rates, disease-free and overall survival rates. Therefore, accurate determination of HER2 status is crucial in selection of patients for appropriate therapy. The authors have included a comprehensive review on this aspect, starting from sample selection, fixation of tissue, accuracy of testing, interpretation of immunohistochemistry and *in situ* hybridization techniques. The authors have not only made a complex

topic easily understandable but have also given guidelines on how to interpret the various tests and recommendations for HER2 testing.

One of the most crucial aspects of any animal study is selection of an appropriate animal model. There are many mouse models which have been developed to mimic the inflammation-metaplasia-dysplasia-carcinoma sequence in gastro-oesophageal reflux and adenocarcinoma. Such models are technically challenging, and adequate knowledge is essential for the selection of the most appropriate model. Chapter 13 is dedicated to describe the three surgical procedures that allow creation of an oesophageal adenocarcinoma model in mice. In addition, a genetic mouse model on Barret's oesophagus, without surgical intervention is also reported. Also included is a chapter dedicated to xenograft mouse model to be used for studies involving peritoneal dissemination of human oesophageal adenocarcinoma cell lines.

The last section of the book provides protocols for molecular research including stem cells, circulating tumour cells, liquid biopsies, DNA and RNA studies

and proteomics. These molecular techniques would further help in understanding the pathogenesis as well as identifying newer targets for treatment and prevention of this cancer. The chapters dedicated to circulatory tumour cells and liquid biopsies are a good read. The authors have explained in detail a method of isolation of cell free DNA from blood plasma and DNA associated with exosomes in blood from patients with this cancer.

To conclude, the authors are commended for bringing out a book that provides an all-inclusive review of the protocols on oesophageal adenocarcinoma, which would be useful for medical, health and science professionals working on the subject. The topics included in this book are essential to read not only for a new researcher but also for specialists from various disciplines to fine tune their research.

**Inian Samarasam**

Upper GI Surgery Unit,  
Department of Surgery - Unit 3,  
Christian Medical College Hospital,  
Vellore 632 004, Tamil Nadu, India  
inians@cmcvellore.ac.in