

THYMIC MALIGNANCY

More Hands Produce Stronger Flames

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Editors: Wentao Fang, Joel Dunning,
Robert J. Korst

Associate Editors: Jianhua Fu, Zhentao Yu, Yin Li,
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图书在版编目 (CIP) 数据

胸腺肿瘤 = Thymic Malignancy: 英文 / 方文涛, (英) 乔尔·邓宁 (Joel Dunning), (美) 罗伯特·J·科斯特 (Robert J. Korst) 主编.

— 长沙: 中南大学出版社, 2017. 11

ISBN 978 - 7 - 5487 - 3095 - 8

I. ①胸… II. ①方… ②乔… ③罗… III. ①胸腺—肿瘤—诊疗—英文 IV. ①R736. 3

中国版本图书馆CIP数据核字 (2017) 第296478号

AME 科研时间系列医学图书 1A026

胸腺肿瘤

Thymic Malignancy

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☐ 丛书策划 郑杰 汪道远 李媚

☐ 整理编辑 郑思华 高明珍

☐ 责任编辑 廖莉莉 江苇妍

☐ 责任校对 杨瑾

☐ 责任印制 易建国 潘飘飘

☐ 版式设计 陈贝贝 林子钰

☐ 出版发行 中南大学出版社

社址: 长沙市麓山南路

邮编: 410083

发行科电话: 0731-88876770

传真: 0731-88710482

☐ 策划方 AME Publishing Company 易研出版公司

地址: 香港沙田石门京瑞广场一期, 16楼C

网址: www.amegroups.com

☐ 印装 天意有福科技股份有限公司

☐ 开本 889×1194 1/16 ☐ 印张 17 ☐ 字数 633千字 ☐ 插页

☐ 版次 2017年11月第1版 ☐ 2017年11月第1次印刷

☐ 书号 ISBN 978 - 7 - 5487 - 3095 - 8

☐ 定价 685.00元

图书出现印装问题, 请与经销商调换

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We are pleased to announce that the “AME Research Time Medical Book Series” co-launched by AME Publishing Company, Central South University Press and DXY.cn will be published as scheduled.

Finishing my medical degree after 4 years and 3 months of study, I decided to quit going on to become a doctor only after 3 months of training. After that, I had been muddling through days and nights until I started engaging in medical academic publishing. Even 10 years after graduation, I had not totally lost the affection for being a doctor. Occasionally, that subconscious feeling would inadvertently arise from the bottom of my heart.

In April 2011, Mr. Tiantian Li, the founder of DXY.cn, and I had a business trip to Philadelphia, where we visited the Mütter Museum. As part of The College of Physicians of Philadelphia, the museum was founded in 1858 and has now become an exhibition hall of various diseases, injuries, deformities, as well as ancient medical instruments and the development of biology. It displays more than 20,000 pieces of items including pictures of wounded bodies at sites of battle, remains of conjoined twins, skeletons of dwarfs, and colons with pathological changes. They even exhibited several exclusive collections such as a soap-like female body and the skull of a two-headed child. This museum is widely known as “BIRTHPLACE OF AMERICAN MEDICINE”. Entering an auditorium, we were introduced by the narrator that the inauguration ceremony of the Perelman School of Medicine at the University of Pennsylvania would take place there every year. I asked Mr. Li, “If it was at this auditorium that you had the inauguration ceremony, would you give up being a doctor?” “No,” he answered.

In May 2013, we attended a meeting of British Medical Journal (BMJ) and afterwards a gala dinner was held to present awards to a number of outstanding medical teams. The event was hosted annually by the Editor-in-Chief of BMJ and a famous BBC host. Surprisingly, during the award presentation, the speeches made by BMJ never mentioned any high impact papers the teams had published in whichever prestigious journals over the past years. Instead, they laid emphasis on the contributions they had made on improving medical services in certain fields, alleviating the suffering of patients, and reducing the medical expenses.

Many friends of mine wondered what AME means.

AME is an acronym of “Academic Made Easy, Excellent and Enthusiastic”. On September 3, 2014, I posted three pictures to social media feeds and asked my friends to select their favourite version of the AME promotional leaflet. Unexpectedly we obtained a perfect translation of “AME” from Dr. Yaxing Shen, Department of Thoracic Surgery, Zhongshan Hospital, Shanghai, who wrote: enjoy a grander sight by devoting to academia (in Chinese, it was adapted from the verse of a famous Chinese poem).

AME is a young company with a pure dream. Whilst having a clear focus on research, we have been adhering to the core value “Patients come first”. On April 24, 2014, we developed a public account on WeChat (a popular Chinese social media) and named it “Research Time”. With a passion for clinical work, scientific research and the stories of science, “Research Time” disseminates cutting-edge breakthroughs in scientific research, provides moment-to-moment coverage of academic activities and shares rarely known behind-the-scene stories. With global vision, together we keep abreast of the advances in clinical research; together we meet and join our hands at the Research Time. We are committed to continue developing the AME platform to aid in the continual forward development and dissemination of medical science.

It is said that how one tastes wine indicates one’s personality. We would say how one reads gives a better insight to it. The “AME Research Time Medical Books Series” brings together clinical work, scientific research and humanism. Like making a fine dinner, we hope to cook the most delicate cuisine with all the great tastes and aromas that everyone will enjoy.

Stephen Wang
Founder & CEO,
AME Publishing Company

Thymic Epithelial Tumors (TETs) are rare neoplastic diseases, but the most common anterior mediastinal tumors in the adulthood. TETs are classified according to the World Health Organization (WHO) histopathological classification, which distinguishes thymomas from thymic carcinomas (tumors category which also includes thymic neuroendocrine ones). Their rarity, along with the lack of randomized clinical trials (RCTs) make TETs' global management still questioned, and only few clinical recommendations currently exist.

The interest to the thymic disorders management has never been so strong as in the last few years. A huge number of articles about biology, associated parathymic syndromes, radiological tumor's appearance, surgery, induction/adjuvant medical therapy and radiotherapy have been published especially after 2014. These reflect of single Institution, multicenter experiences, or are the results of retrospective societal databases. These datasets are commonly used to investigate the biological aggressiveness of the rare thymic tumours as well as their prognostic correlates.

Some recent examples of their usage and their effectiveness are the outcome of aggressive neoplasms (Thymic Carcinomas or Neuroendocrine Thymic tumors as well as their comparison), tumor's size as valuable predictor for complete resection and possible recurrence's development, the role of Myasthenia Gravis (MG) in thymomas outcome and, finally, the multimodality approach importance definitive demonstration while treating advanced lesions.

Last but not least, historically more than 15 different TETs' staging systems have been proposed and used, the most common of which were the Masaoka one and its update by Koga and Colleagues. Few years ago, under the International Association for the Study of Lung Cancer (IASLC) aegis, the need for a new TNM based staging system was evident, in accordance with other solid tumors. Therefore, merging the International Thymic Malignancy Interest Group (ITMIG), the European Society for Thoracic Surgeons (ESTS) and the Japanese Association for Research on the Thymus (JART) datasets, a retrospective analysis of the outcome of several thousand treated patients worldwide made the new TNM system final processing possible. Nowadays this represents the official staging system for thymic tumors.

The new prospective societal datasets development (ITMIG & ESTS, particularly) will furthermore improve our knowledge on some specific issues concerning TETs' treatment, and results are expected in few years. In particular, they will be focused on the optimal MG surgical management, the role of minimally-invasive procedures (VATS, robotic, transcervical or subxiphoid approaches), the role of lymphadenectomy, the correct indication for induction/adjuvant treatments in locally-aggressive lesions as well as the importance of personalised medicine, following the recent identification of molecular alterations occurring in the KIT, vascular endothelial growth factor receptors (VEGFRs) and mammalian target of rapamycin (mTOR) signalling pathways. This is the future.

This book is the result of the Authors' tremendous effort in collecting and making available all that was recently published on TET's diagnosis and management: they deserve a very major credit for putting this on.

Also AME Publishing Company, once again, demonstrated its extreme entrepreneurship, believing in the project and carefully curing it with a meticulous print apparel. The reading of this book should be suggested to all the researchers of thymic disorders and I'm sure this book will become a landmark text on this field.

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Preface for *Thymic Malignancy: More Hands Produce Stronger Flames!*

Thymic epithelial tumors (TET) are neoplasms that arise from the thymic gland usually in the prevascular mediastinum. They are considered malignant neoplasms as they can recur, metastasize and potentially lead to the death of the patient (1,2). However, many patients have a favorable outcome and eventually die of another cause. TET are rare with an incidence of 1.5 cases/million population/year. Because of their paucity and their usually favourable outcome, TET are difficult to study. While many single-institution studies of clinico-pathologic features have been published, these reports usually include a relative small number of cases. In addition, small case series to compare different treatment options are available, however, again, these studies in general lack power and are retrospective in nature. Prospective randomized clinical trials are extremely challenging and have not been performed on a large scale. However, such trials would be important as some TET behave in an aggressive manner and standardized treatment of these tumors is currently lacking.

The paucity of TET and their in general excellent prognosis requires “more hands to produce stronger flames”. Joint global efforts are crucial to acquire a sufficient number of such cases for meaningful studies to advance our knowledge of the disease and its optimal treatment regimens. Within recent years, regional [Chinese Alliance for Research in Thymomas (ChART) (3), Japanese Association for Research of the Thymus (JART) (4), Surveillance, Epidemiology, and End Results (SEER) database (5)] and global [European Society of Thoracic Surgeon (ESTS) (6), International Thymic Malignancy Interest Group (ITMIG) (7)] organizations have been formed to bring physicians of various specialties including medical oncology, neurology, pathology, radiation oncology, radiology, and thoracic surgery, other health care personnel, patients and patient advocates from around the world together to study TET. Large regional and international databases comprised of patients with the disease are an important foundation of these studies. These databases are of retrospective and prospective nature and are used for the study of clinical features, pathologic subtypes and findings, surgical procedures, treatment strategies and outcomes as presented in many of the articles in this book. These databases will also potentially be advantageous to discern ethnic differences in the pathogenesis of the disease. Moreover, only these kind of global efforts and international collaboration will allow for future prospective randomized trials that might explore different treatment options and possibly personalized treatment.

To standardize treatment, global standardization of diagnosis and staging of TET are important. Therefore, major efforts have been undertaken within the last decade to enhance reproducibility of the pathologic subtyping of TETs and to develop a staging system that can be used for all subtypes of TET including thymoma, thymic carcinoma and thymic neuroendocrine tumors. As a result, the most recent WHO classification of TET was published in 2015 and pathologists are encouraged to use that for their diagnosis of TET and their subtypes (1,8). While over the years institutions have used the Masaoka staging (9) or the Masaoka-Koga staging (10) to stage thymomas and/or the TNM staging that was proposed by the WHO in 2004 (11) to stage thymic carcinomas, the International Association of the Study of Lung Cancer (IASLC) together with ITMIG proposed a staging for TET that now can be used for thymomas, thymic carcinomas and thymic neuroendocrine tumors (12). This proposed staging system was incorporated in the 8th AJCC/UICC TNM staging classification and is currently introduced or will be introduced shortly globally for staging of TET.

This book illustrates the remarkable results in the study of TET that have been accomplished through collaborative projects at regional and global level. Many of these projects were only possible thanks to established retrospective and prospective regional and international databases. These concerted efforts built a solid foundation for future projects such as the molecular study of TET and studies towards standardized and personal treatment of patients with these tumors amongst other projects. “More Hands Produce Stronger Flames!”

References

1. Travis WD, Brambilla E, Burke AP, et al. WHO Classification of tumours of the lung, pleura, thymus and heart. 4th eds. Lyon: International Agency for Research on Cancer, 2015.

2. Roden AC, Yi ES, Jenkins SM, et al. Modified Masaoka stage and size are independent prognostic predictors in thymoma and modified Masaoka stage is superior to histopathologic classifications. *J Thorac Oncol* 2015;10:691-700.
3. Liang G, Gu Z, Li Y, et al. Comparison of the Masaoka-Koga staging and the International Association for the Study of Lung Cancer/the International Thymic Malignancies Interest Group proposal for the TNM staging systems based on the Chinese Alliance for Research in Thymomas retrospective database. *J Thorac Dis* 2016;8:727-37.
4. Hishida T, Nomura S, Yano M, et al. Long-term outcome and prognostic factors of surgically treated thymic carcinoma: results of 306 cases from a Japanese Nationwide Database Study. *Eur J Cardiothorac Surg* 2016;49:835-41.
5. Lim YJ, Song C, Kim JS. Improved survival with postoperative radiotherapy in thymic carcinoma: A propensity-matched analysis of Surveillance, Epidemiology, and End Results (SEER) database. *Lung Cancer* 2017;108:161-7.
6. Ruffini E, Detterbeck F, Van Raemdonck D, et al. Tumours of the thymus: a cohort study of prognostic factors from the European Society of Thoracic Surgeons database. *Eur J Cardiothorac Surg* 2014;46:361-8.
7. Huang J, Ahmad U, Antonicelli A, Catlin AC, et al. Development of the international thymic malignancy interest group international database: an unprecedented resource for the study of a rare group of tumors. *J Thorac Oncol* 2014;9:1573-8.
8. Marx A, Chan JK, Coindre JM, et al. The 2015 World Health Organization Classification of Tumors of the Thymus: Continuity and Changes. *J Thorac Oncol* 2015;10:1383-95.
9. Masaoka A, Monden Y, Nakahara K, et al. Follow-up study of thymomas with special reference to their clinical stages. *Cancer* 1981;48:2485-92.
10. Koga K, Matsuno Y, Noguchi M, et al. A review of 79 thymomas: modification of staging system and reappraisal of conventional division into invasive and non-invasive thymoma. *Pathol Int* 1994;44:359-67.
11. Travis WD, Brambilla E, Muller-Hermelink HK, et al. Pathology and genetics of tumors of the lung, pleura, thymus and heart. In *WHO Classification of Tumors*, 2nd Ed. Edited by Kleihues P, Sobin LH. Lyon IARC Press, 2004:145-97.
12. Detterbeck FC, Asamura H, Crowley J, et al. The IASLC/ITMIG thymic malignancies staging project: development of a stage classification for thymic malignancies. *J Thorac Oncol* 2013;8:1467-73.

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Thymic tumors are a series of malignancies with different biological behaviors, clinical manifestation, and prognosis. Because of their unique nature and rarity, many issues remain to be explored so as to improve management outcomes. And there has never been any book specialized in the disease. Therefore, I congratulate AME on publishing this series of papers as a monograph, which is certainly unprecedented.

In recent years, two advances have contributed greatly to improved understanding of thymic tumors. The first is international and regional collaborations in joint studies for this relatively rare disease. Included in this compilation of related publications are the results from the Chinese Alliance for Research in Thymomas (ChART) retrospective studies that cover the most concerned questions in diagnosis and management of thymic malignancy (*Part I. General concepts and strategies in the management of thymic malignancies*). These include preoperative diagnosis, induction and adjuvant therapies, surgical procedures, and concomitant myasthenia. Although many of these still remain unsolved, it is a great step forward and help pave the way for future studies. And there is reason to believe that readers would benefit greatly from the comments on these studies by an international panel, many of them have been actively involved in the International Thymic Malignancy Interest Group (ITMIG).

The second and also a striking progress owes greatly to the advance in modern technology. Similar to the recent trend in lung and esophageal cancer surgery, minimally invasive approaches in thymic surgery has also attracted increasing attention and has contributed to improved outcome while maintaining similar oncological results. It is thus not surprising at all to notice that *Part II, Surgical therapies for thymic malignancies* of this book consists almost exclusively of topics on minimally invasive thymic surgery. A diversity of approaches is introduced here, including both left and right, subxiphoid VATS as well as robotic thymectomy. On top of these are introduction and perspectives on oncological principles and outcomes of minimally invasive surgery in management of thymic tumors. Hopefully this book would help disseminate the ideas of standardized management in thymic malignancy to many medical practitioners involved.

More hands build a higher flame. This book is not yet a comprehensive text that would solve all problems in the related area. Yet, it represents the state of the art in the management of thymic tumors and collected wisdom from colleagues in different specialties related to this interesting and important disease. The contents included here would be helpful for all medical professionals and researchers in the field and better inspire those interested to probe further for continuing improvement. We very much look forward to updating the contents and make it more educational in a future edition.

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Although tumors of the thymus gland are rare, they are not infrequently encountered by thoracic oncologic specialists. Thymic tumors have been managed for many decades using clinicians' anecdotal experience because their rarity has prohibited the performance of high quality clinical studies. Over the past decade, however, the landscape has begun to change for two major reasons. First, the development of formal research organizations dedicated to producing clinically applicable data for the everyday management of patients with thymic tumors has accelerated interest in these tumors. These organizations include the Chinese Alliance for Research in Thymomas (ChART), the Japanese Association for Research on the Thymus (JART) as well as the International Thymic Malignancy Interest Group (ITMIG). All of these organizations bring together physicians and researchers, working collaboratively, to try to answer clinically relevant questions regarding the management of patients with thymic tumors. Second, these organizations have dedicated resources and energy to develop multi-institutional databases (in the case of ITMIG, a multinational database) to serve as repositories of high quality patient data to be used for research purposes. Through this pooling of data and collaboration, research involving data from thousands of patients is now being performed with regularity, resulting in tangible benefits for patients.

This book represents a compilation of manuscripts that reflect recent contributions to the literature regarding thymic tumors. Several of these studies have resulted from analyses performed using the aforementioned large datasets compiled by investigators from all over the world, while others represent literature reviews by recognized experts in the field of thymic tumors, or single institutional experiences. Topics range from treatment strategies for complex cases to the technical aspects of cutting edge surgical techniques. Caregivers will find this collection of manuscripts an invaluable resource when involved in the management of patients with any type of thymic tumor, regardless of their specialty.

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