Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration (EBUS-TBNA):
A Practical Approach
Endobronchial Ultrasound-Guided Transbronchial Needle Aspiration (EBUS-TBNA): A Practical Approach

Editors

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172 figures, 153 in color, and 38 tables, 2014
Sara E. Monaco
To my parents, husband, and children Eddie, Julia, and Nicholas for their endless love and support.

Walid E. Khalbuss
I dedicate this book to my beloved family, my teachers, mentors and trainees, and my native (Syria) and adopted (USA) countries.

Liron Pantanowitz
To my wife Heidi, and children Joshua and Maya, for making everything possible.
Acknowledgements
We acknowledge the hard work and dedication of our cytopathology team, including our cytotechnologists and trainees, in addition to the clinicians and technical staff that work hard to improve patient care utilizing EBUS-TBNA.
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In 1964 Werner Maassen published his first large report on mediastinoscopy as a technique to diagnose mediastinal lesions, which subsequently became the gold standard for the mediastinum. Even after the implementation of improved imaging techniques like computed tomography and positron emission tomography, the surgical option was not discussed in his position.

Watching and learning from gastroenterologists, in 2004 the world’s first curved linear array ultrasonic bronchoscope was introduced to the market. The development of the endoscope had started more than 5 years earlier based on a request to miniaturize existing endoscopic ultrasound-fine needle aspiration technology to be applied for diagnosis from within the bronchial system.

The success story of EBUS-TBNA starts in 2003 with a publication by Krasnik and Vilmann, followed by an article by Yasufuku. Both articles provided a description of the principle behind EBUS-TBNA. In 2006, a large case series with 502 patients showed that EBUS-TBNA resulted in a 93% diagnostic yield, sensitivity of 94%, specificity of 100%, and accuracy of 94%.

Over the last 10 years, the evidence about EBUS-TBNA has grown rapidly, and after several meta-analyses the endoscopic technique is now quoted as the first test for evaluation of the mediastinum, replacing mediastinoscopy.

In the present book edited by Drs. Sara E. Monaco, Walid E. Khalbuss, and Liron Pantanowitz, the reader will find in 13 chapters a practical instruction to the technology. Discussing all the relevant topics, the authors cover such topics as anatomy, practical issues like the procedure as well as the handling of the material, and limitations of the technology and complications that can occur. There are a lot of high-quality images and figures, and based on the recent evidence the reader can learn how to use the system and how it can be implemented into daily routine.

And now? Have fun reading the book and learn a lot.

Prof. Dr. Felix J.F. Herth, Heidelberg
Preface

The diagnosis of mediastinal lesions by endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is a novel application utilizing fine needle aspiration. Evaluation of these EBUS-TBNAs is essential for answering important questions that are critical for determining the next step in patient management. Due to the importance of these clinical decisions and the need to have rapid answers based on small amounts of material, it is essential to understand how to interpret these specimens and how the diagnosis rendered will impact clinical decision-making. This book reviews the clinical perspective of the procedure, technical aspects, and the cytomorphology of common and uncommon entities, in addition to challenges and diagnostic pitfalls. Each chapter has a multitude of full-color high-resolution images and includes key references to the current literature in the field, as well as quick reference tables and informative figures highlighting salient points. The result is a high-yield reference for pathologists, cytopathologists, cytotechnologists, pulmonologists, thoracic surgeons, and other clinicians and trainees who either interpret or perform EBUS-TBNA.

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