We are experiencing extraordinary advances in medicine. Surgery is less invasive, and image guidance has become a fundamental tool in targeting the lesions of interest. The availability of cells or tissues from patients remains crucial for disease diagnosis, and identifying molecular changes or surrogate markers important for prognosis and predicting therapeutic response. With this backdrop, it is not difficult to conclude that cytology continues to play a central role in modern medicine.

Currently, breast cytology is being replaced by core needle biopsy (CNB) in many centers of the western world under a perception that CNB is superior to cytology in all respects. In actual fact, fine needle aspiration cytology (FNAC) of the breast is an excellent way to diagnose breast lesions and can be accomplished during a routine doctor’s office or clinic visit or at the patient’s bedside. It utilizes inexpensive equipment and can be performed, interpreted, and reported in a matter of minutes, expediting the patient’s entry into treatment. FNAC and CNB are not mutually exclusive but are complementary methods. This is extensively discussed in this textbook in the different chapters.

In the practice of all authors, FNAC still has an important role as a first-line cost-effective method to investigate breast lesions. One of the causes of decline of this technique is the decreasing familiarity and experience of pathologists with breast cytology. This book aims to demonstrate the different aspects of breast cytology, including discussion of the technical aspects, description of the morphological characteristics of diverse lesions, and the harnessing of ancillary techniques on cytologic material that can gather more information for pathologists. Moreover, with the development of new treatment protocols for breast cancer patients, the use of FNAC is increasingly used to rule in or out multicentric disease. In combination with axillary lymph node and distant site aspirations, disease staging and planning of suitable therapy can be more quickly and economically achieved. FNAC is also being used to obtain cells to assess molecular markers that can guide treatment, especially in metastatic lesions. Recently, in recognition of the importance of FNA in assessment of breast cancer, a chapter on this subject was included in the latest 4th edition of the WHO Classification of Tumors of the Breast.

More than 50 years after the reintroduction of FNAC as a diagnostic method by the “Karolinska Hospital” school, this method still represents a near-perfect test. It is relatively easy to perform requiring no “high-tech” gadgetry; costs are low and are substantially less expensive than open biopsy. The procedure is safe, yielding material that provides for a high-diagnostic accuracy in an
extremely short time frame. The ability to perform either FNA and/or CNB, based on a given set of clinical/radiological/pathologic findings, allows one to take advantage of the benefits that both procedures have to offer.

Our wish is that you, the reader, for which this book is written, can use it in daily practice. We hope this book can serve as a ready resource for obtaining helpful information to solve cases and to help your patients.

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