Endocrine oncology is a broad subject that would be difficult, if not impossible, to cover adequately in a single book. Cancers of endocrine tissues, such as breast and prostate, are very important from a public health point of view because of their increasing prevalence; they have also been the focus of intensive research, which has expanded dramatically in recent years. In order to keep this book to a manageable size and still have it be useful to the reader with an interest in this subject, I decided to focus primarily on the endocrinology of cancers of the breast, prostate, endometrium, and ovary. As a result, there is very little information in this book on the molecular genetics of endocrine cancers, and such information is available in other excellent books.

Despite the great advances in our understanding of the genetics of endocrine cancers, important and controversial issues relating to the endocrinology and cell biology of malignancies of endocrine tissues remain to be resolved, and I have tried to cover these issues in detail in *Endocrine Oncology*. For example, while it has been known for many years that steroid hormones, particularly estradiol, influence breast cancer development and progression, many issues remain to be resolved regarding the true role of estradiol in breast cancer progression. Indeed, it is still not clear how to predict response of breast cancer patients with estrogen receptor-positive disease to antiestrogen therapy. Of further importance to the field is the relatively limited understanding, still, of how steroid hormones function to regulate normal mammary gland homeostasis in humans. For that reason, the first six chapters of this book focus on that specific area of research, and the first three chapters focus primarily on the role of estrogen and progesterone receptors in normal mammary gland function. The recent observations that estrogens and progestins signal normal mammary epithelial cell proliferation via paracrine mechanisms to neighboring cells, which are steroid hormone receptor-negative, are exciting and may help to shed light on many aspects of human breast carcinogenesis. These findings are relevant to the question of how many pathways or precursor cells are able to give rise to human breast cancers that either express or do not express steroid hormone receptors, and this important topic is the subject of Chapter 4. As is discussed in Chapter 5, expression of certain growth factor receptors can modify the expression of steroid hormone receptors, which in turn can influence breast cancer progression. These receptors may also influence the response of steroid hormone receptor-positive breast cancer cells to antiestrogens. A detailed discussion of factors that influence response to antiestrogens is presented in Chapter 6. Thus, the first part of this book attempts to cover several important and intertwined issues in ways that may help to clarify the important issues that remain to be resolved in the field.

As is evident from Chapters 7 and 8, steroids are not the only hormones important in breast cancer development. Prolactin, which is clearly important in rodent models of breast carcinogenesis, may play a similar role in human breast cancer development. In addition, peptide hormones such as chorionic gonadotropin may play important roles in modifying breast cancer progression.

With a similar approach, the second part of the book examines the role of steroid hormones in prostate cancer development and treatment. In many ways, breast and prosta-
tate cancers are parallel diseases in that they are both influenced by steroid hormones, both give rise to what is initially hormone receptor-positive disease that responds to endocrine therapy, and both eventually progresses to a hormone-independent state. These issues are discussed in Chapters 13 through 15, which also demonstrates that, while there are many parallels between breast and prostate cancers, there are many distinguishing features as well.

The next two chapters focus on epithelial ovarian cancer and endometrial cancer. Once again, the emphasis of these chapters is on the endocrinology of these diseases. Since the pathogenesis of endometrial cancer appears to be influenced by certain antiestrogens that are used in breast cancer therapy, the issue of how estrogens affect different target tissues is critically important to our understanding of disease progression and the use of antiestrogen therapy.

Having focused on the role of hormones in the development of breast, prostate, ovarian, and endometrial cancer in the first 13 chapters of the book, the next four chapters present an in-depth discussion of the role of growth factors in endocrine neoplasia. A wealth of data in the literature points to an intimate interaction between hormones and growth factors in mediating normal tissue homeostasis and in pathological processes involving endocrine tissues. In particular, members of the epidermal growth factor family, the insulin-like growth factors and their binding proteins, and the fibroblast growth factors have all been implicated in the progression of endocrine neoplasia. Clearly, a book that focuses on endocrine aspects of cancers of endocrine tissues would be incomplete without a detailed discussion of the role of growth factors in the progression of these diseases.

It has recently become clear that the ability of steroid hormone receptors to influence gene expression is modified by the repertoire of transcriptional co-activators and co-repressors present in target cells. Furthermore, some of the genes that code for these proteins may function as oncogenes in breast and other cancers. It is also now known that hormones can directly affect the expression of proteins that modify the cell death response of epithelial cells under both physiologic and pathologic conditions. Finally, while it is well known that inactivation of tumor suppressor genes is important in cancer progression, endocrine tissues such as breast and ovary seem to have their own special suppressor genes, BRCA1 and BRCA2. Thus, these three subjects, which are of particular importance to the development of endocrine malignancies, are covered in the final three chapters of this book.

As I mentioned at the outset, no book on endocrine oncology can be complete, since this subject encompasses a vast area of clinical medicine and cancer biology research. It was my intention, and it is my hope, that in developing this book, some of the most important issues relating to the endocrinology and cell biology of endocrine neoplasia have been appropriately identified and thoroughly discussed. It is also my hope that the readers of this book learn as much as I did from the outstanding contributions made by the authors, to whom I am greatly indebted for their hard work and dedication.

Stephen P. Ethier, PhD
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