



Recent Advances in Thyroid Cancer Research

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Editors
Yasuhiro Ito
Akira Miyauchi
Nobuyuki Amino

Department of Surgery, Kuma Hospital
8-2-35, Shimoyamate-dori, Chuo-ku
Kobe 650-0011, Japan



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Editors

Yasuhiro Ito

Akira Miyauchi

Nobuyuki Amino

Managing Editor

S.G. Pandalai

Publications Manager

A. Gayathri

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Preface

Thyroid malignancy includes many histological types. Papillary carcinoma is the most common, and accounts for about 90% of all thyroid carcinomas in our country. Although this carcinoma usually has an indolent characteristic, tumors showing certain features demonstrate aggressive behaviors and even become life-threatening. Therefore, it is very important to evaluate each case preoperatively before surgery. The second most common thyroid malignancy is follicular carcinoma, but it is very difficult to discriminate this type from benign adenoma. The shape of the tumor detected by ultrasonography or computed tomography and findings on fine needle aspiration biopsy differ only slightly between follicular carcinoma and adenoma, which causes difficulty when surgeons are attempting to determine whether and how surgical treatment should be performed for each patient. Recently, new trials have been performed to improve the differential diagnosis from various aspects. Although papillary and follicular carcinomas are generally slow-growing, once the tumor dedifferentiates and becomes anaplastic, the cancer demonstrates exceedingly aggressive characteristics and most patients die of anaplastic carcinoma within 6 months after surgery. Although such polarized characteristics are a unique feature of thyroid carcinoma, rarely seen in malignancies of other organs. The mechanism of dedifferentiation has not been elucidated, although some interesting biological differences between dedifferentiated and differentiated carcinomas have been reported. Medullary carcinoma has a different origin from papillary and follicular carcinomas. Although the latter two originate from thyroid follicular cells, medullary carcinoma originates from parafollicular C-cells. These are often hereditary and recent studies have added new information about the biological characteristics, including the prognosis.

There are also some rare but important malignancies of the thyroid. Intrathyroid epithelial thymoma (ITET) / carcinoma showing thymus-like differentiation (CASTLE) is a rare disease originating possibly from ectopic thymic tissue in the thyroid. Although the histology significantly resembles squamous cell carcinoma or squamoid type anaplastic carcinoma, its prognosis is far better than that for either of those lesions. Therefore, preoperative and especially pathological evaluation are extremely important. Malignant lymphoma of the thyroid has been regarded as a rare thyroid disease, but the prevalence of ultrasonography has enabled detection of the disease at an early phase, before it becomes fatal.

In this book, various new findings obtained from the latest research into various thyroid malignancies are presented. We hope that this book will be a great help for surgeons and researchers in the field of thyroid malignancy.

Yasuhiro Ito

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