

Fohotodermatoses and Skin Cancer

Preface Skin cancer is one of the most common types of tumors in Western countries. In the United States only, more than one million people are diagnosed with skin cancer each year. Although the absolute number of skin cancer patients is increasing, the death is inversely decreasing, due to the early detection and treatment. Basal cell carcinoma (BCC), squamous cell carcinoma (SCC), and melanoma are three major types of skin cancer. BCC and SCC rarely have metastasis; over 95 percent BCC and SCC patients can be cured. Melanoma only accounts for a small percentage of skin cancer, but it causes 75 percent death of this disease. In this book, we invited a number of experts to present their latest accomplishments on skin cancer research. Although the topics are varied, the authors did great work to help readers better understand skin cancer and learn the knowledge to prevent this disease. There are three sections in this book, starting with etiology. Ultraviolet (UV) light exposure is overwhelmingly believed to be the most frequent cause of skin cancer. In this section, the association between UV and photodermatoses, as well as skin cancer is discussed. Desmosomal cadherins are important molecules in tumor cell adhesion and invasion, and their important roles in BCC are also presented in details. In the diagnosis and treatment section, a few new methodologies are described. As known, the outcome of malignant melanoma greatly depends on the thickness of the tumor at the time of treatment. Accurate determination of melanoma lateral and depth of margins using non-invasive imaging technologies is of importance when making sound decisions for treatment and evaluating a five year survival rate. A novel method named differential scanning calorimetry is capable of predicting metastasis of melanoma patients by monitoring the temperature changes of plasma. Electronic miniature X-ray brachytherapy is introduced as a new technology to treat nonmelanoms skin cancer. Although its potential has not yet been fully realized, chemoprevention, in terms of using chemical agents that naturally occur in foods, or are administered as pharmaceuticals to retard or reverse the process of carcinogenesis and progression of cancer, has been recognized to benefit individuals with precancerous lesions or genetic susceptibilities to cancer. In the prevention section, two chapters summarized the most recognized dietary phytochemicals and their potential application in skin cancer. X Preface This book would not have been possible without the contributions of all authors and the support from the publisher. Especially, I will convey my sincere appreciation to Ms. Tajana Jevtic, who has always been available and supportive of me to accomplish this project. Yaguang Xi, M.D., Ph.D. Assistant Professor of Oncologic Sciences, University of South Alabama, USA