

Cancer Dermatology

Frederick Helm

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Foreword

This collective effort was undertaken by members and former members of the medical staff of the Roswell Park Memorial Institute to make available a clinical guide to aid in the diagnosis and treatment of the malignant diseases afflicting the human integument. This is not intended to be a textbook, nor an encyclopedic work restricted to the reference library, but rather a concise manual to be readily available and easily used when needed.

However, even on the most pragmatic level, merely didactic methodology is not enough. Our concern must include concepts, no matter how briefly stated. Thus condensed discussions of the various facets of such large complex fields of inquiry as carcinogenesis, brief descriptive profiles of the more important cutaneous neoplasms, and consideration of neoplasms of other organs that invade or influence the skin are provided to help the therapist attain understanding as well as skill. To extend the horizon further, most of the chapters present carefully selected references for the reader who wishes to probe deeper and more broadly.

Part III is essentially a descriptive summary of the actual techniques used by

each member of a team composed of different specialties working in our busy cancer clinic. The unusual opportunity for cooperative and easy exchange of consultations among the various specialists, dermatologists, radiologists, surgeons, chemotherapists, pathologists, cytologists, and others have been a catalyst of incalculable value in potentiating the very rich personal experience of the individual therapist. This is transmitted not only into better patient care, but also into better research.

In any undertaking of multiple authorship, some overlap of discussion is inevitable. On the other hand, this very feature has the advantage of bringing into focus differences of emphasis from the perspective of more than one area of interest.

It is hoped that this book will fulfill the expectation of the reader by expanding his awareness of diagnostic possibilities and helping him weigh the advantages and disadvantages of available therapeutic options, as well as provide some guidance in the employment of the modality he has chosen.

The editor is to be commended on the judicious selection of topics, which for the most part encompass the whole spectrum of cancer dermatology.

GERALD P. MURPHY, M.D., D.S.C.
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Preface

More malignant neoplasms occur on the skin of man than on any other anatomic site. It is estimated that from 300,000 to 600,000 skin cancers develop each year in the United States alone. The skin is a site most amenable to therapy; however, an accurate diagnosis and a proper assessment of the circumstances are necessary. In addition, neoplasms on the skin can serve as a model system because of their accessibility and thereby increase our knowledge about the broader aspects of tumor biology.

This book stresses a team approach to the management of skin cancer. As practiced at Roswell Park Memorial Institute in Buffalo, the concept has worked well for both the patient and the physician. Access to immediate consultation with all specialties concerned in the treatment of cancer (dermatology, pathology, plastic surgery, radiology, and oncology) not only helps to quickly establish a diagnosis, but also to outline a plan of early treatment. The dermatologist has a great advantage, in that he is not only trained to make a correct diagnosis based on the clinical appearance and histologic examination, but he is also acquainted with all treatment modalities, without necessarily using them himself. Therefore without bias, he is better qualified to refer patients for the appropriate therapy.

Buffalo, New York FREDERICK HELM, M.D.

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All pictures, when not otherwise marked, are from the collection of the Department of Dermatology at Roswell Park Memorial Institute, Buffalo, New York.

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Part I

Etiology of Neoplasms of Skin

1

Epidemiology

Josef Vana

Cancers of the skin are the most common malignant tumors of man, at least of white man. It is surprising, therefore, that they have received so little attention from the epidemiologist. Their high frequency, relatively easy diagnosis, and suitability for detection by screening techniques should render these tumors highly relevant for epidemiologic study. There are, however, significant obstacles in data collection. It is difficult to obtain complete and reliable information on all skin cancers occurring in a defined population during a specified period of time. Most skin cancer patients are treated in physicians' offices or clinics, and histologic diagnosis is not always made. Data on such patients are not systematically recorded in registries, hospital charts, or records of pathology laboratories or outpatient facilities. These difficulties are aggravated both in countries with a large sector of private medical practice and in countries with underdeveloped health services.

Epidemiologic cancer research has been greatly facilitated in the past 20 years by the growing network of regional, national, and international cancer registries. Al-

though useful in providing information on many neoplasms, cancer registries are notably unsuccessful in compiling data on malignant skin tumors.⁷⁶ Many registries that began by including all malignant tumors have dropped the obligatory reporting of skin cancer, except melanoma, because of the difficulties in obtaining complete data. In some instances ad hoc population surveys in registry populations have confirmed how selective and fragmentary the registry data on skin cancer were.

In recognition of these obstacles in data collection, research workers have turned away from nationwide efforts to ad hoc surveys in selected areas to obtain the true prevalence or incidence of skin cancer in the population. Recent studies of this type have shown that the real extent of skin cancer is much higher than that indicated by national statistical estimates or registry data.^{49,68,80} In one such study in Victoria, Australia, for every four known and treated cases, roughly three untreated cases were detected.⁷³ In the Third National Cancer Survey conducted by the U.S. National Cancer Institute in 1969-71, superficial skin cancers were found to be

so underreported that incidence may vary from 300,000 to 600,000 new cases annually.¹

A further constraint that slows the progress of epidemiologic research in skin cancer is the variation in reliability of diagnostic procedures. Diagnoses should be verifiable, and histologic evidence should be available for confirmation. At present, histologic verification is not recorded for all reported cases even in areas where laboratory facilities are available.¹³ Moreover, pathologists are still likely to differ considerably in their microscopic typing of the common types of skin cancer.

Malignant melanoma differs significantly from the superficial skin cancers: it has a much lower incidence but a much higher mortality. In contrast to the other skin cancers, it is unlikely to be treated on an outpatient basis, far more likely to reach hospital diagnosis, treatment, and therefore records. Many registries that have discontinued notification of the superficial skin cancers retain registry of malignant melanoma. Moreover, melanoma is classified separately from other skin cancers in the international codes for certification of death, and in some countries site of primary lesion is also routinely recorded on the death certificate. The greatest constraint to epidemiologic study of malignant melanoma is its low incidence: large population data bases or pooled uniform data are necessary to provide a sufficient number of cases for epidemiologic study. The improved regional and national health statistics developed over the past years are beginning to provide such a data base. Moreover, improved diagnostic and therapeutic techniques with consequent improved survival rates are prompting a new focus on etiology and prevention of malignant melanoma.

Squamous cell and basal cell carcinomas and melanoma together comprise by far the largest group of malignant skin

neoplasms. For these tumors some data on frequency, site, and type are available for epidemiologic review.

MORTALITY

Unlike statistics for cancers of high malignancy, mortality statistics for superficial skin cancer cannot be used for even rough estimates of the extent of morbidity. Death rates for squamous cell and basal cell carcinoma reflect not only incidence but also the fatality rates, the level of health services provided, and the comprehensiveness of the statistical reporting systems. Furthermore, as deaths from malignant melanoma comprise up to two thirds of all deaths from primary malignant tumors of the skin,^{40,42} mortality figures for skin cancer are inflated with respect to superficial skin cancers and therefore are misleading.

Death rates for malignant melanoma alone are more useful. Comparative studies have shown that in areas where incidence data are not available, estimates of incidence may cautiously be drawn from mortality data.⁴⁵ Since 1957 deaths from melanoma have been classified and reported separately from other skin cancers in the International Statistical Classification of Diseases, Injuries, and Causes of Death (7th Revision), and this has facilitated analysis of mortality data on an international level. Death rates for malignant melanoma are reported to range from 3.2/100,000 population in Australia⁶ to 0.2/100,000 population among Asian females.⁶⁵ In the United States the mortality rate in 1967 was 1.6/100,000 among both sexes of the white population.⁴¹

Considerable variation in melanoma death rates exists within, as well as between, countries. In Australia, an increase in death rates has been observed as one proceeds toward the Equator from Victoria through New South Wales to Queensland, and this increase in mortality by latitude has been observed every year since 1950.¹⁶ Recent analysis of age-

Although of limited value for epidemiologic study of morbidity, skin cancer mortality data did provide the first indications of the large geographical differences in the distribution of skin cancer, thus suggesting the etiologic importance of environmental factors. These large differences were later confirmed by incidence studies. Reported age-adjusted death rates for total skin cancers in 24 countries for 1958-59 ranged from 3.8/100,000 population among Australian males to 0.7/100,000 in Japanese females.⁶⁹ In the United States age-adjusted skin cancer mortality rates in 1969-71 were 2.4/100,000 for males and 1.5/100,000 among females.¹

INCIDENCE

One striking feature of a review of the

Incidence of malignant melanoma is much lower and spans a more narrow range but follows the same geographic pattern. Reported rates range from 0.1/100,000 in Japanese males to 16/100,000 in Queensland, Australia.^{17,31} In tropical and subtropical Queensland, the incidence is five times that of Tasmania in the South.¹⁶ Within Queensland a higher incidence is reported from the coastal areas than from the interior.^{16,30} Similar geographic variations that could reflect gradients in intensity and duration of sun exposure have also been described in the