Incidence, Risk Factors and Clinico-Pathological Study of Non-Melanoma Skin Cancer

Thesis

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By

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Aliaa El-Husseiny
INTRODUCTION
**Introduction**

Cancer is an important, challenging and increasing health problem. It is a global cause of death ranked third in developing countries after infectious-parasitic diseases and diseases of the cardiovascular system, whereas, it ranked second to cardiovascular diseases as a cause of death in developed countries (El-Hattab and Nouh, 1998).

Of all cancers, the most common cancer is cancer of the skin. In the USA alone, the incidence of skin cancer was estimated to be 900,000-1,200,000 cases annually, almost equal to 1,228,600 cases of all other cancers combined (Landis et al, 1998). In the year 2000, it was estimated that one in every three cancers diagnosed is a skin cancer according to Skin Cancer Foundation's statistics in USA (Jerant et al, 2000).

It is customary to divide skin cancer into: non-melanoma skin cancer (NMSC) and melanoma skin cancer (MSC). They differ in clinical appearance, site of occurrence, histological characteristics, rate of growth, pattern of inheritance, tendency for local recurrence, and risk for metastasis. They also differ in their incidence; NMSC incidence is much higher than that of MSC. Currently, between 2 and 3 million NMSC cases occur globally each year, whereas, MSC cases are approximately 132,000 globally each year (McGovern and Lefell, 2000).

Although, NMSC has a low mortality rate; it is responsible for considerable morbidity (in terms of functional and cosmetic outcome of the lesion and its treatment) and utilization of health services. Thus NMSC constitutes a major world public health problem, particularly in countries with high incidence rates such as Australia and USA (Miller, 1995).
Introduction

World-wide efforts have been made to estimate NMSC true incidence, mortality and morbidity rates, determine the population at risk, find clues to its etiology, and implying these informations in their prevention and control.

In our country, epidemiological studies about skin cancer are lacking. This harbors understanding the overall profile and magnitude of NMSC as a health problem in Egypt.

This behooved us to carry on a study on NMSC incidence, risk factors and clinico-pathological features in Benha University Hospital, Dermatology Department, hoping to be a probable start for a multicenteric studies allover Egypt.
Aim of the work

The aim of this work is to determine the incidence, risk factors and clinico-pathological characteristics of non-melanoma skin cancer in Benha University Hospital in Benha district in Egypt.
REVIEW OF LITERATURE
Nomenclature and Classification

Skin tumors nomenclature and classification standardization and uniformity are essential to attempt to evaluate their epidemiology, natural history, and treatment responses. There has been considerable controversy in the literatures because of the heterogeneity of cutaneous structures that can be involved in a neoplastic process (Murphy and Elder, 1990).

According to Allen (1971), skin tumors are classified into melanoma and non-melanoma skin cancers. Non-melanoma skin cancers are further classified into six groups as follows:

I- Basal cell carcinoma.
II- Squamous cell carcinoma.
III- Tumors of the skin vessels.
IV- Tumors arising from a mesenchymal origin.
V- Tumors arising from a lympho-reticular origin.
VI- Tumors of the skin appendages.

This classification was mirrored in the WHO histological classification of skin tumors, 1974 and has long been used.

Further classification of skin tumors was made by Juan Rosai in 1989 based on the tissue of origin (epithelial, mesenchymal, melanotic, or round cell) and to individual cells of origin if sufficient differentiation is present. He combined tumors and tumor-like diseases of the skin that were dispersed in varying literatures.
Review of literature

The classification was as follows:

I-Tumors and tumor-like diseases of the epidermis:

- Seborrheic keratosis.
- Achrochordon.
- Actinic keratosis.
- Cutaneous horn.
- Bowen's disease.
- Epidermoid (squamous cell) carcinoma.
- Pseudo-epitheliomatous hyperplasia.
- Basal cell carcinoma.

II-Tumor and tumor-like diseases of skin adnexae:

- Eccrine sweat gland tumors.
- Apocrine sweat gland tumors.
- Sebaceous gland tumors.
- Hair follicle tumors.

III-Tumor and tumor-like diseases of melanocytes:

- Nevi.
- Malignant melanoma.
- Pigmentation in other skin tumors.

IV-Tumor and tumor-like diseases of the dermis:

- Fibroplastic tumors.
- Fibrohistocytic tumors.
-Smooth muscle tumors.
-Peripheral nerve tumors.
-Vascular tumors.
-Lymphoid tumors.
-Mycosis fungoides and related T-cell lymphomas.
-Other primary tumors.
-Metastatic carcinoma.

Giles et al (1988), Roberts (1990), Kaldor et al (1993), Marks (1995), Thomas et al (1999) and Hensin (2001) in their studies have considered that NMSC generally refers to: cutaneous squamous cell carcinoma (SCC) and basal cell carcinoma (BCC) as they are the most common cancers in the world and both carcinomas share an origin from the epidermal cells and many common features of the epidemiology and carcinogenesis.