

UP-DATE OF EPIDEMIOLOGICAL DATES OF NONMELANOCYTIC AND MELANOCYTIC SKIN CANCERS

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Abstract: Worldwide, in the last years there is an increased incidence of skin tumors. The highest incidence rate of skin cancer is in Australia, New Zealand and South Africa. In Romania, the incidence of skin cancers had a gradual ascension. Since the exact incidence of NMSC is not fully known, partly because of underreporting of all these cancers in oncological registries and the relatively large number of NMSC resolved in private offices, we proposed to make an update about the epidemiological dates available in NMSC and melanocytic skin cancers (MSC).

Cuvinte cheie:

epidemiologie, carcinom bazocelular, carcinom spinocelular, melanom malign

Rezumat: În ultimii ani se constată o creștere a incidenței tumorilor cutanate în întreaga lume. Cea mai mare rată de apariție a cancerelor cutanate este în Australia, Noua Zeelandă și Africa de Sud. Și în România incidența tumorilor cutanate este într-o ascensiune progresivă. Deoarece incidența exactă a TCNM nu este pe deplin cunoscută, pe de o parte datorită neraportării tuturor acestor neoplazii registrelor oncologice, iar pe de altă parte datorită numărului relativ mare de TCNM soluționate în cabinetele private, ne-am propus realizarea unei actualizări a datelor epidemiologice existente despre tumorile cutanate nonmelanocitare și melanocitare.

SCIENTIFIC ARTICLE OF THEORETICAL PREDOMINANCE

GENERAL NOTIONS

Skin tumors are more common than lung, breast, colon and prostate cancer. Although NMSC are the most common forms of skin cancer. Basal cell and squamous cell carcinoma (SCC) are part of NMSC. Basal cell carcinoma (BCC) may represent 80% of NMSC. The malignant melanoma (MM) is the most aggressive skin cancer. Currently, Australia has the highest incidence of skin cancers. The NMSC arise from the epidermal skin structures. CBC is the most common skin tumors with BCC/SCC ratio of 4:1 (1).

The BCC epidemiology

The BCC (Figure 1) determines a strictly local aggressiveness and has an excellent prognosis if treated fairly. Its high incidence through skin tumors had required the knowledge of the risk factors and effective therapeutical methods.

Figure no. 1. CBC of the face



The risk of developing BCC in white population is estimated to 33-39% for men and 23-28% for women. Also, the BCC incidence is doubling in every 25 years (Finland, Switzerland). In Europa the incidence of BCC had different values: the highest is in Anglia (128/100000 men and 105/100000 women) and the lower is in Slovakia (38/100000 men and 29.2/100000 women). In Australia the incidence of this

cancer reaches high levels, respectively 1173-2074 cases of BCC/100.000 men and 629-1579 cases of BCC/100.000 women. The average age of BCC appearance is currently 68 years. The BCC mortality is reduced and appears more commonly in immunosuppressed patients (the mortality rate of BCC is 0,12/100.000).

The SCC epidemiology

The 2nd skin cancer after BCC is squamous cell carcinoma (Figure 2) (representing approximately 20% of all skin tumors) (2). SCC currently appears on the photoexposed areas, especially in the middle-aged patients and over the age of 60. The SCC had a recognized highly aggressivity and can spread to lymph nodes with distant metastasis. The most common metastasis appears in lung tissues.

The progressive increase in the SCC incidence can be explained by prolonged exposure without photoprotection, compared with previous decades, the aging of the population, the more frequent examination of the skin by the patient and by the doctors and the increasing number of the diseases that require the immunosuppressive therapy (organ transplant, rheumatic and skin diseases). Other authors believe that the thinning of the ozone layer with better penetration of UV radiation may enhance the action of UV radiation. Lately it was seen a gradual increase of the incidence of SCC with 3-10% in each year.

The incidence of SCC has different values; the highest incidence is in Australia (600-1037 cases/100.000 men and 228-524 cases /100.000 women). In 1994 the incidence of CCS in the USA was 81-136 cases/100.000 men and 26-59 cases/100.000 women (3). Currently in the USA, in Minnesota the SCC incidence is 100 cases/year/100.000 women and 191 cases/year/100.000 men. In Europe the incidence varies between 6,7 SCC/100.000 men and 3,8 SCC/100.000 women in Slovakia and 28,9/100.000 men and 11,7/100.000 women in Switzerland.

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CLINICAL ASPECTS

The metastasis risk is 2-6%. In cases with perineural invasion the metastasis risk reached 47%. Node metastasis increases morbidity, but the lung metastases means the evolution to exitus. The mortality rate was higher in SCC located in lips, ear and genital area. In the Caucasian population 90% of skin cancer deaths before the age of 50 are assigned to MM; after 85 years, most skin cancer deaths are due to SCC (4).

Figure no. 2. CSC of the inferior lip



Figure no. 3. Malignant melanoma



The MM epidemiology

Malignant melanoma (figure 3) is the most aggressive skin cancer that develops from the skin pigmentary system. It mainly locates in the skin, but can be, also located in mucous, eyes, ear, gastrointestinal tract or leptomeninges. Although it represents only 5-7% of all skin tumors, MM is responsible for the highest rate of death from the skin cancers (75%).

The early diagnosis and treatment of MM are due to the intense educational efforts and the investigational techniques that characterise the developed countries, with a possible cure of the small lesions. Thus, a diagnosis in stage Clark 0 or I (under 1mm) would allow to increase the MM survival in approximately 90% of the patients. Also, the continue efforts by the primary prevention (photoprotection) and the secondary prevention (early diagnosis of MM) contribute to decreased the mortality and morbidity of this cancer. The survival rate in developed countries is 91% in the USA, 81% in Europe and 40% in developing countries.

In white population, in the past 20 years the incidence of MM has almost tripled. Currently, in the USA, MM is the 6th as frequency from all the malignancies. It is considered that the incidence of MM is higher because of unreported cases of cancer registry. In the USA the risk of developing MM is 1 in 60 people (2000% higher than 1930), or 1 in 32 persons if are included in situ MM. In 2000 the risk of developing MM in the world is 20 times higher (1/75) than in 1935 (1/1500). In Australia the risk is much higher: 43 times higher for women (1/35) and 60 times higher for men (1/25) (20).

In Europe MM represents 1-2% of all malignancies. The highest incidence of MM is in Australia and New Zealand: 37,7 cases/100000 men and 29,4cases/100000 women, compared with 6,4 cases/100000 men and 11,7 cases/100000 women in North America.

An analysis of all the cases of MM in the USA during 1969-1999 had showed an increased incidence of MM: 3 times

higher in male population aged 45-64 years and 5 times higher in male population over 65 years (5). Although the incidence of MM has increased more aggressively compared with other cancer (exceeded only by the lung cancer in women) the disease mortality has no parallel increase probably due to the growing number of early diagnosis. The age of 50 is the average age of MM occurrence. Tumor is different in women compared with men.

In 2007 the European Cancer Observation had communicated the incidence of MM among other cancers; this data is presented bellow (table 1) (6).

In Europa the incidence of MM varies between 12-20/100000/year (in Nordic countries) and 3-5/100000/year (in mediteranean countries).

Table no. 1. The incidence of the MM among other neoplasia

| Cancer | Incidence - number | Mortality - number |
|-------------------------------|--------------------|--------------------|
| Lung | 10945 | 8993 |
| Colorectal | 8240 | 4861 |
| Breast | 7913 | 3261 |
| Stomach | 5366 | 4024 |
| Oral cavity and oropharyngeal | 3403 | 1932 |
| Cervix | 2802 | 2133 |
| Pancreas | 2426 | 2258 |
| Ovary | 1650 | 955 |
| Leukemia | 1566 | 1180 |
| Malignant melanoma | 938 | 343 |
| Cancer | 661 | 593 |

CONCLUSIONS

The incidence of skin tumors worldwide is growing. The incidence of MSC and NMSC in Romania it is not known accurately. The establish of a strict records of all patients with MSC and NMSC would allow an accurate assessment of the social and financial impact of skin tumors in society.

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