

SKIN CANCER IN FOUR SPANISH CITIES: DIFFERENCES BY SEX AND AGE

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Objective: To estimate the specific incidence of skin cancer, by age and sex, during 2005 in four hospitals of different Spanish cities (Málaga, Madrid, Coruña and Barcelona).

Methods: *Design:* prospective multicenter study. Convenience sample formed by four public hospitals of four Spanish cities. *Setting:* collection of cases from Dermatology departments. *Inclusion criteria:* first skin tumor, with histopathologic confirmation, in a subject belonging to the hospital reference area; second primitive tumor; multiple equal tumors (one incident case) and multiple different tumors (one case by each histological type). *Exclusion criteria:* relapses; metastasis; keratoacantoma and actinic keratosis. *Statistical analysis:* descriptive analysis and calculation of the specific incidence rates by sex and age. The annual incidence rates were computed per 100,000 inhabitants and standardized by direct method according to the European Standard Population.

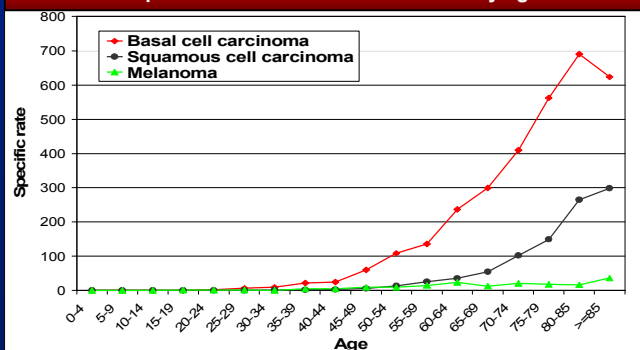
Results: 2,656 skin cancer cases met the inclusion criteria: 2,010 basal cell carcinoma (BCC), 519 squamous cell carcinoma (SCC) and 127 malignant melanoma (MM). Patient's age is significantly different by histological type. SCC appears in advanced ages (mean 76 years), MM in younger patients (mean 63 years), and BCC in an intermediate age (mean 70 years). Nonmelanocytic cancers are more frequent in men (53% vs 47% for BCC and 59% vs 41% for SCC), while melanocytic tumors are more usual in women (58% vs 41%). The main risk factors for nonmelanocytic tumors are: occupational exposure, solar keratosis, immunosuppression and previous cutaneous neoplasms; on the contrary, those more related with melanoma are the history of childhood sunburn and the exposure to UV radiation (Table 1). The standardized incidence rates of skin cancer in Spain during 2005 are 85, 19 and 5 per 100,000 for BCC, SCC and MM, respectively. The specific rates show different patterns in line with histological type. Basal cell carcinoma displays an ascending trend with the age accentuating the slope from the age of 40-44 with a little decrease in the last age group. The SCC also displays an ascending trend with the age although it begins later and the magnitude of the increase is more moderate. Finally, the relation of melanoma with the age does not show a clear pattern (Graphic 1). In relation with the distribution by sex, nonmelanocytic tumors are more frequent in men, whereas melanoma is commoner in women (Graphic 2).

Table 1. Descriptive analysis of skin cancer

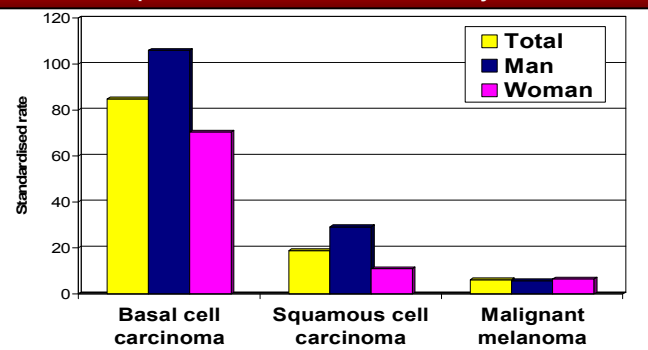
	Basal cell carcinoma (n=2,010)		Squamous cell carcinoma (n=519)		Malignant melanoma (n=127)	
	N	%	N	%	N	%
Gender*						
Man	1,058	52.6	394	58.6	53	41.7
Woman	952	47.4	215	41.4	74	58.3
Mean age in years (SD)**	70.2 (13.4)		75.8 (11.5)		63.1 (15.9)	
Occupational exposure**	605	38.1	189	48.7	25	22.9
Childhood sunburn*	715	44.9	133	34.8	55	50.0
Solar keratosis**	742	46.5	248	64.2	27	24.8
Immunosuppression**	36	2.2	34	8.7	-	-
Previous cutaneous neoplasms**	539	33.6	139	35.4	10	9.0
UV radiation**	27	1.7	6	1.6	7	6.4

*p<0.01, **p<0.001

Graphic 2. Distribution of skin cancer by age



Graphic 2. Distribution of skin cancer by sex



Conclusions: Our findings are in line with skin cancer literature. Differences by age, sex and histological type could be related to different patterns of sun exposure. The incidence is higher in men due to a greater sun exposure caused by professional reasons. In the case of melanoma, the sporadic sun exposure can be commonest in woman. The ascending trend with the age begins before in men, presenting also a greater slope. This finding stresses the importance of the dose-response pattern and the cumulative effect of solar radiations described for the nonmelanocytic cancer.