Poster n°11

Primary Cutaneous Squamous Cell Carcinoma Risk in Kidney Transplant Recipients : A Pilot Study

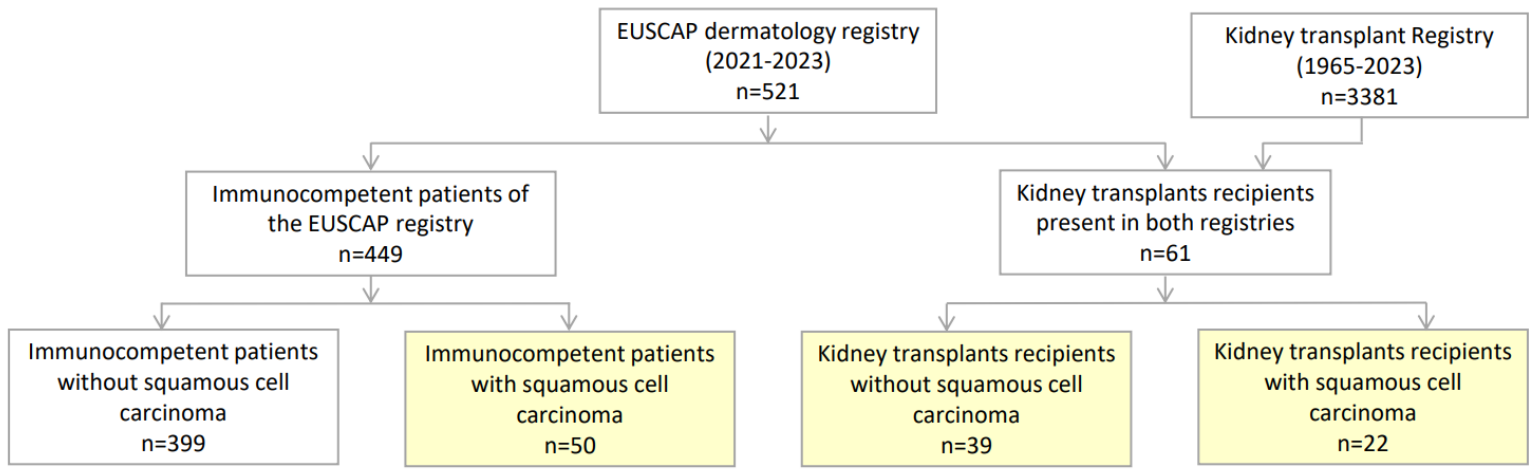
J. Lipski[1], K. Wunderlich[1], T. van Meerhaeghe[2], C. Catalano[2], V. Deworme[1], H. Njimi[1], S. Gandini[3], M. Suppa[1], A. Le Moine[2], V. del Marmol[1]

1. Department of Dermatology, Hôpital Erasme & Institut Jules Bordet, HUB, Université libre de Bruxelles, Brussels, Belgium 2. Department of Nephrology, Hôpital Erasme, HUB, Université libre de Bruxelles, Brussels, Belgium 3. Department of Experimental Oncology, European Institute of Oncology, IRCCS, Milan, Italy

Introduction Squamous cell carcinoma (SCC) is significantly **more prevalent** in kidney transplant recipients (KTRs) compared to the general population. While some risk factors for SCC in KTRs have been identified, there is **no reliable risk score** for this population[1-3]. The aim of this study is to determine the **risk factors and characteristics of KTRs who develop SCC at Erasme Hospital** in Brussels, Belgium, with the goal of constructing a **risk assessments tool** for KTRs in a future study.

Material and methods This study was retrospective and monocentric. We analyzed data from two registries, the European skin cancer risk factors platform (**EUSCAP**) dermatological registry and the **kidney transplant registry**, to identify 111 patients, including **61 KTRs** with and without SCC and **50 immunocompetent patients with SCC**. We compared immunocompetent patients with SCC with KTRs with SCC, and KTRs with SCC with KTRs without SCC (Figure 1.).

Figure 1. Flow chart of the study cohort identification Abbreviations: EUSCAP, European skin cancer risk factors platform; SCC, squamous cell carcinoma; KTR, kidney transplant recipient



Results We found that immunocompetent patients with SCC were significantly older (mean age: 75.3 years) than KTRs with SCC (mean age: 70.1 years; p=0.03), who were in turn significantly older than KTRs without SCC (mean age: 56.0 years; p<0.001). KTRs without SCC had darker phototype and hair color than KTRs with SCC. KTRs without SCC reported significantly more sun exposure during adolescence (p=0.02) than KTRs with SCC, while immunocompetent patients with SCC reported significantly more cumulative sun exposure than KTRs with SCC (p=0.002). A history of at least one basal cell carcinoma (BCC) or actinic keratosis (AK) was associated with SCC in KTRs compared with KTRs without SCC. We did not find significant differences in immunosuppressive treatments between KTRs with and without SCC (Table 1. and Table 2.).

Table 1. Comparison between immunocompetent patients with squamous cell carcinoma (SCC) and kidney transplant recipients with SCC

	Immunocompetent patients with SCC (N=50)	KTRs with SCC (N=22)	p[1]
Age at inclusion	**75.3 (±10.8)**	70.1 (±8.0)	**0.03**
Sun exposure during adolescence	39 (78.0)	**22 (100.0)**	**0.02**
Sun exposure (40-60 years of age)	**50 (100)**	17 (77.3)	**0.002**
Number of weeks	**293.0 [158.2-425.2]**	80.0 [40.0-240.0]	**0.01**
Sun exposure (60-80 years of age)	**41 (82.0)**	9 (40.9)	**<0.001**
Cumulative sun exposure (weeks)	**556.0 [304.0-844.8]**	153.5 [91.0-464.0]	**0.002**

Abbreviations: SCC, squamous cell carcinoma; KTR, kidney transplant recipient; AK, actinic keratoses; BCC, basal cell carcinoma
N () shown for categorical variables. Median (interquartile range) shown for continuous variables, expect for age [mean (standard deviation)]
[1]Fisher's exact test; Wilcoxon rank sum test; Pearson's Chi-squared test

Table 2. Comparison of kidney transplant recipients with squamous cell carcinoma (SCC) and without SCC

	All KTRs (N = 61)	KTRs without SCC (N= 39)	KTRs with SCC (N= 22)	p[1]
Age at inclusion	61.1 (±13.3)	56.0 (±13.0)	**70.1 (±8.0)**	**<0.001**
Hair color				**0.02**
Blond	11 (18.0)	6 (15.4)	5 (22.7)	
Brown	35 (57.4)	19 (48.7)	16 (72.7)	
Black	15 (24.6)	14 (35.9)	1 (4.5)	
Red	0 (0.0)	0 (0.0)	0 (0.0)	
Phototype				**0.04**
I-II	11 (18.1)	6 (10.4)	5 (22.7)	
III-IV	29 (47.5)	17 (43.5)	12 (54.5)	
V-VI	21 (34.4)	16 (41)	5 (22.7)	
Sun exposure during childhood (weeks)	60.0 [36.0-180.0]	**104.0 [48.0-420.0]**	36.0 [19.5-58.0]	**0.002**
Sun exposure during adolescence (weeks)	48.0 [18.0-162.0]	**60.0 [24.0-240.0]**	24.0 [14.2-86.0]	**0.03**
Presence of ≥1 AK	14 (23.0)	0 (0.0)	**14 (63.6)**	**<0.001**
Presence of ≥1 BCC	15 (24.6)	4 (10.3)	**11 (50.0)**	**<0.001**

Conclusion Our study suggests that **older age**, **fair skin** and **hair color**, and **a history of at least one BCC or AK** are associated with **SCC in our KTR population**. These findings highlight the need for improved prevention and management strategies for this vulnerable population.

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