Association between Primary Cutaneous Lymphomas and other primary malignancies in patients' personal or family history in Greek population; a retrospective single-center study

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Background: Primary cutaneous Lymphomas (PCLs) consist an heterogenous group of rare malignancies. Cutaneous T-cell Lymphomas are the most common among them, with Mycosis Fungoides being the main representative. The etiology of PCLs is rather unknown, however, there are indications that genetic factors may play a role in CTCL developments.[1] Several studies have examined the incidence of second malignancies in patients with PCLs, as well as their family history of malignancies.[2,3,4] In our study we examine the association between PCLs and other primary malignancies in patients' personal or family history in Greek population.

Methods: This retrospective study included 144 patients with histopathologicaly confirmed diagnosis of PCL and 130 controls matched by gender and age (+/- 4 years). All patients and controls completed a detailed questionnaire regarding sun exposure habits-including personal history of sunburns, use of photo-protective measures, use of sunbeds- exposure to ionizing radiation, smoking and alcohol consumption habits, detailed medical personal history (diseases, medication, other chronic skin conditions, personal history of malignancies, etc) and family history (chronic skin conditions, malignancies). Statistical analysis of the data was performed using PASW Statistics v25 software.

Table 1. Family history of solid organ cancer

		Family history of solid organ cancer		
P_OR_C		0 (No)	1 (Yes)	Total
Control	Observed	67	62	129
	% within row	51.9 %	48.1 %	100.0 %
Patient	Observed	53	89	142
	% within row	37.3 %	62.7 %	100.0 %
Total	Observed	120	151	271
	% within row	44.3 %	55.7 %	100.0 %

Table 2. Model Coefficients - P_OR_C

						95% Confidence Interval	
Predictor	Estimate	SE	Z	p	Odds ratio	Lower	Upper
Intercept	-0.234	0.184	-1.28	0.202	0.791	0.552	1.13
Family history of solid organ 1 – 0	0.596	0.247	2.41	**0.016**	**1.815**	1.118	2.95

Note. Estimates represent the log odds of "P_OR_C = Patient" vs. "P_OR_C = Control"

Results: Of the 144 patients included, 78 (54,2%) were males and 66 (45,8%) females (median age 57 years old) and among the 130 control subjects, 70 (53,8%) were males and 60 (46,2%) females (median age 61 years old). Analysis showed that family history of solid organ cancer is related to higher relative risk (OR 1,815) of CL development ($p<0.05$, 95%CI 1.11 – 2.95) (Tables 1,2). The two types of solid organ tumors more highlighted were liver cancer ($p=0.046$) and stomach cancer ($p=0.002$). Family history of skin cancer as well as hematologic malignancies doesn't seem to affect the risk of CL in statistically significant way ($p=0.247$ and $p=0.093$ relatively) in our group. As far as the personal history of other primary malignancies is concerned, statistical analysis showed that there might be a correlation between other malignancies and primary cutaneous lymphomas ($p<0.05$). At this point we should notice the limitation that the number of patients and controls having a personal history of any type of cancer was small, but it consists a predictor.

Conclusion: There are several studies analyzing the correlation of PCLs and second primary cancers. The results of our study showed an association of personal history of cancer with PCLs, as well as a correlation of family history of solid organ malignancy with a higher relative risk of cutaneous lymphoma development. No higher relative risk was detected in subjects with family history of hematologic malignancies. We believe that it is important to be aware of the personal and the family history of patients with PCL, as far as the malignancies are concerned, and try to early recognize possible second malignancies in these patients.

References

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