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SECOND PRIMARY LUNG CANCER IN PATIENTS WITH PREVIOUS LYMPHOMA

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Objectives:

Second primary cancer is the leading cause of death in lymphoma long-term survivors, with lung cancer representing the most common second tumour. Previous studies investigated the risk of developing lung cancer after lymphoma, but limited information exists about the treatment and prognosis of these patients. Herein, we aimed to investigate the outcome of lymphoma survivors treated for second primary lung cancer.

Methods:

A retrospective multicentre study including consecutive patients previously treated for lymphoma and subsequently developing NSCLC was conducted. Data regarding lymphoma (including age at diagnosis, symptoms, histology, staging, and treatment) and lung cancer (including smoking history, age at diagnosis, latency from lymphoma, histology, staging, treatment, and survival) entered as covariates in a Cox proportional hazards model to identify significant prognostic factors for overall survival (OS) and disease free survival (DSF).

Results:

Our study population included 164 patients, 145 of whom underwent lung cancer resection. The mean latency between lymphoma and NSCLC diagnosis was 8.8±2.1 years. The median OS

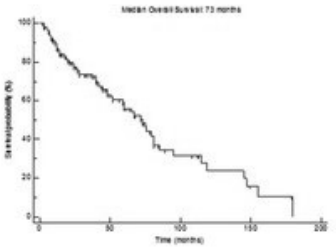
was 73 months; patients undergoing NSCLC resection had a median OS higher than patients with un-resectable disease (75 versus 7 months; p<0.0001). Multivariable analysis showed that active lymphoma (HR: 2.68; p=0.0043), longer latency between lymphoma and NSCLC diagnosis (HR:2.0; p<0.0001), and advanced NSCLC staging (HR:2.37; p<0.0001) were significant predictors for reduced OS (Table 1).

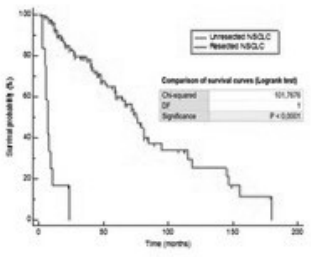
Table 1: Cox-regression analysis for Overall Survival

Covariates	Univariable				Multivariable			
	Coefficient	HR	95% CI	p-value	Coefficient	HR	95% CI	p-value
Sex	0.42	1.52	0.81 – 2.84	0.19				
Active lymphoma	0.79	2.19	1.16 – 4.14	0.0152	1.00	2.68	1.36 - 5.26	0.0043
Age at Lymphoma diagnosis	-0.03	0.97	0.74 – 1.29	0.85				
Hystology of Lymphoma	0.56	0.34	0.63-1.69	0.76				
Stage of lymphoma	0.36	0.95	0.68-2.32	0.86				
Treatment of Lymphoma	-0.19	0.83	0.63 - 1.09	0.18				
Age at NSCLC diagnosis	0.21	1.24	0.87 – 1.76	0.24				
Latency between Lymphoma and NSCLC diagnosis	0.54	1.71	1.41 – 2.08	< 0.0001	0.69	2.00	1.48 - 2.70	<0.0001
Hystology of NSCLC	-0.52	0.59	0.36 – 0.98	0.0421	0.19	1.20	0.67 - 2.15	0.53
NSCLC Stage	1.16	3.18	2.28 – 4.24	< 0.0001	0.86	2.37	1.60 - 3.51	<0.0001

Table 2: Cox regression analysis for Disease Free Survival

Covariates	Univariable				Multivariable			
	Coefficient	HR	95% CI	p-value	Coefficient	HR	95% CI	p-value
Sex	-0.13	0.87	0.46 – 1.67	0.68				
Smoker	-0.14	0.87	0.43 – 1.75	0.69				
Active lymphoma	0.49	1.86	1.65 – 3.58	0.01	0.55	0.75	0.85 – 1.79	0.31
Age at Lymphoma diagnosis	-0.06	0.94	0.68 – 1.29	0.70				
Hystology of Lymphoma	0.49	1.60	0.71 – 3.58	0.25				
Stage of lymphoma								
Treatment of Lymphoma	-0.22	0.80	0.57 – 1.12	0.19				
Age at NSCLC diagnosis	0.23	1.26	0.83 – 1.91	0.28				
Latency between Lymphoma and NSCLC diagnosis	0.48	1.61	1.27 – 2.03	0.0001	0.55	1.73	1.23 - 2.42	0.0014
Hystology of NSCLC	-0.33	0.72	0.40 – 1.30	0.28				
NSCLC Stage	0.95	2.57	1.87 – 3.54	< 0.0001	0.83	2.29	1.52 - 3.46	0.0001





Conclusions:
The presence of lymphoma and/or a history of lymphoma should not be a contraindication for the surgical treatment of lung cancer patients. Including lymphoma survivors in lung cancer-screening program may lead to early detection of second primary lung cancer and improve survival.

Disclosure: No significant relationships.
Keywords: lymphoma, secondary primary cancer, lung cancer