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Secondary malignancies in patients with chronic lymphocytic leukemia

Secondary malignancies in CLL

- Patients with chronic lymphocytic leukemia (CLL) have been described to be more likely to develop second primary solid tumors and hematologic malignancies.
- There are not enough data indicating which patients belong to such a risk group and what are the predisposing factors for the disease.
- There is a lack of papers comparing the risk of secondary cancers in patients treated with chemotherapy with those treated with new drugs. This indicates the considerable clinical relevance of conducting such an assessment among patients.

van der Straten L, Levin MD, Dinnessen MAW, et al. Risk of second primary malignancies in patients with chronic lymphocytic leukemia: a population-based study in the Netherlands, 1989-2019. Blood Cancer J. 2023;13(1):15. Published 2023 Jan 13. doi:10.1038/s41408-023-00784-z

CLL database

- Patients under care and treated at the Department of Hematology in years 2014-2024
- Clinical and cytogenetic data
- The data will be collected based on medical records, without active or passive participation of the subjects of the records, not requiring the performance of additional procedures and obtaining additional information beyond the content of the standard records of a given center.
- Primary goals: identifying risk factors for second primary malignancies in CLL patients

Study hypothesis

- A second malignancy shortens the overall survival of patients with CLL and the choice of treatment may have an influence on the type of cancer.

Primary objective

- Evaluation the impact of the variables on the frequency and type of second malignancies (SMs) that occur in patients with CLL.

Secondary objectives

- Evaluation of differences on overall survival (OS) between patients with SMs and without SMs
- Correlaton of SMs with previously recognized prognostic factors
- An attempt to select a group of patients who could benefit from cancer screening and dermatology visit for skin cancer screening
- Understanding the impact of CLL-directed treatment on the type of SM

Assumed outcomes

- Publication of original papers on solid tumors in patients with CLL and second one on hematologic malignancies in patients with CLL
- Presentation of results at hematological scientific societies conferences (International Workshop on CLL (iwCLL), European Research Initiative on CLL (ERIC), Polish Society of Hematologists and Transfusiologists).

Methods

- A retrospective single center study to assess the incidence of other malignacies and detect potential risk factors in over 2000 patients with CLL being under care and treated at the Department of Hematology in Lodz between 2014 and 2024.
- Baseline demographics were incuded in collected data; date of CLL diagnosis; TP53 gene mutation status and immunoglobulin heavy variable (IGHV) gene somatic hypermutation status; cytogenetic status for chromosomes 11q, 13q, 17p and 12 assesed by fluorescence in situ hybridization; treatment status of CLL, type of treatment; datę and type od other malignancy, date of last follow-up and outcome.
- Consent of the Bioethics Committee number RNN/126/23/KE on May 16, 2023.

Statistical analysis

- Statistical analysis and cumulative incidence of SMs would be determined using Fine-Gray model with death as a competing risk.
- Overall survival (OS) would be resolute using Kaplan-Meier method and differentiations between specific SMs and the cohort with CLL only performed using the long-rank test.
- Recognizing the importance of aging in the occurrence of SMs we would obtain crude and age-adjusted estimates for all analyses.
- Biological and clinical characteristics, status of treatment (before SM incident), total lines and types of treatment would be examined as potential risk factors for development of SMs after CLL diagnosis.

Findings till April 2024

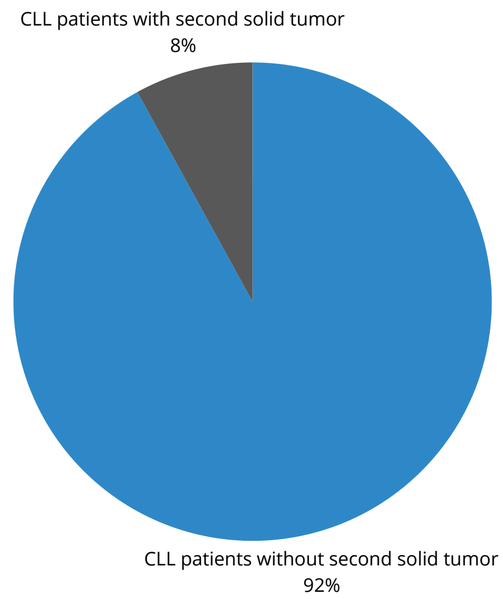

Fig 1. Percentage of patients with and without second solid tumor - assessed data on 1700 patients with CLL.

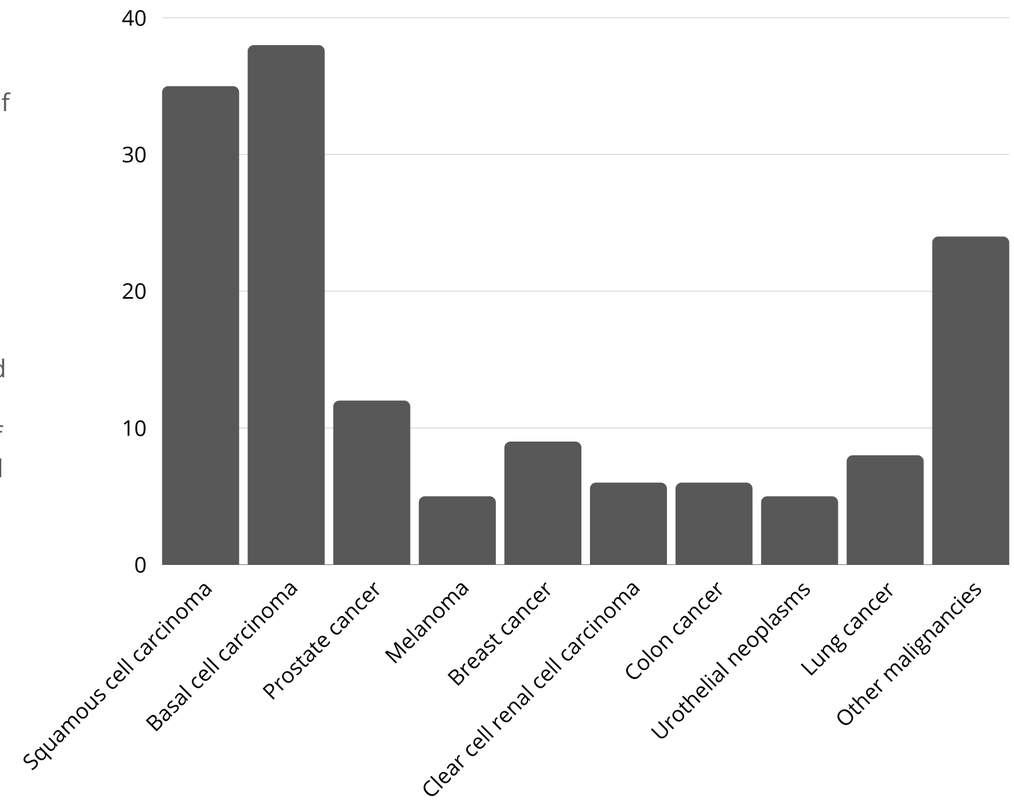

Fig 2. The most common second malignancies - assessed data on 1700 patients with CLL.