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## Cancer in systemic lupus erythematosus; a letter to the editor on current concepts

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Several investigations showed/indicated that individuals with SLE are prone to the overall malignancies. *Please cite this paper as:* ALem L, Ghasemi M, Saeifar S, Mojtahedi Z, ALem M. Cancer in systemic lupus erythematosus; a letter to the editor on current concepts. J Nephropathol. 2023;12(4):e21514. DOI: 10.34172/jnp.2023.21514.

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Systemic lupus erythematosus (SLE) is an autoimmune syndrome causing extensive inflammation and tissue injury in the target organs. It can involve not only the kidneys but also several other systems (1). Lupus nephritis is a common manifestation of SLE (2). This disease is an immune complex glomerulopathy disease, described as producing nuclear autoantibodies that could cause immune complexes creation, leading to an inflammatory process in several organs (3). This disease of glomeruli is a main reason for mortality and morbidity in SLE (4). Several morphologic aspects of this nephritis include vascular, glomerular, and interstitial pathology. Hence renal involvement could be the foremost predictor of prognosis in individuals with SLE (5). Recent studies show that kidneys are strongly affected in 80% of SLE cases (4). Recently, much attention has been directed toward the possible association of malignancy and SLE since several investigations have shown the association between SLE and cancer (3-5). In general, cases with SLE are prone to developing various malignancies. However, this association is ill-understood (6). Recently, Zhang et al, in a meta-analysis of 48 studies of 247,575 patients, demonstrated a significantly raised risk of overall cancer and cancer-related mortality in SLE. In addition, this meta-analysis showed an increased risk of digestive cancers

like the liver, colon, anus, and esophagus. Additionally, they showed hematologic malignancies and pulmonary cancers also increased. Moreover, their randomization analysis detected a possible relationship between genetically susceptible SLE and lymphoma risk (6). A previous meta-analysis by Song et al on 24 investigations demonstrated that this disease is linked with an increased hazard of overall malignancies. This meta-analysis showed malignancy risk in both sexes and several organs; however, SLE might diminish the incidence of cutaneous melanoma and prostate cancer. Meanwhile, SLE was not notably associated with colorectal, uterus, ovarian, brain, breast, or pancreatic cancers. Song and colleagues finally concluded that SLE could be associated with an enhanced risk for sixteen involved cancers (7). Several explanations have been presented to describe the association between SLE and cancer. For example, smoking could be a noteworthy etiologic parameter for malignancy development in SLE. Other research done by Wu et al showed that lung cancer risk in SLE cases who were smokers was detected to be increased approximately four times (8). Likewise, Bernatsky et al presented that the risk of breast tumors in SLE could be affected by autoantibodies or drug therapy, like antimalarial agents (9).

Furthermore, others suggested that increased risk

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of non-Hodgkin's lymphoma in SLE may be due to abnormal B-cell function and the administration of immunosuppressive drugs, which resulted in lymphoma by a mutagenesis effect or disturbed immune regulation; however, other parameters, such as underlying genetic disease, environmental factors or age, could be interacting (10). In conclusion, the meta-analysis of several cohort studies proposes that individuals with SLE are prone to overall malignancies. This finding could be conducted as an alert for physicians in charge of SLE patients in order, to examine these patients periodically and perform the relevant paraclinical studies.

### Authors' contribution

**Conceptualization:** Leila ALem, Maryam ALem.

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The authors declare that they have no competing interests.

### Ethical issues

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