Methods: Population-level cohort study of SLE patients (n=2,111) and general population comparators (n=21,110) hospitalised between 1980-2014. SLE patients (identified by ICD-9-CM: 695.4, 710.0, and ICD-10-AM: L93.0, M32.0) were nearest matched (1:10) for age, sex, Aboriginality, and temporality. Follow-up was from timezero (index SLE hospitalisation) to cancer death, or 31/12/2014. Using longitudinal linked health data, we determined the risk of cancer development and subsequent 5-year mortality between SLE patients and comparators with Cox proportional hazards regression models.

Results: SLE patients had similar multivariate-adjusted risk (aHR 1.03, 95%CI 0.93, 1.15; P=0.583), but reduced risk of cancer development. Cancer development risk was higher in SLE patients <40 years old (aHR 1.51), and from 1980-1999 (aHR 1.28). SLE patients had higher risk of developing cancer of the oropharynx (aHR 2.13); vulvo-vagina (aHR 3.22); skin (aHR 1.20), and, lymphatic and haematopoietic tissues (aHR 1.78), all P<0.05. SLE patients had reduced risk of breast cancer (aHR 0.64). After cancer development, SLE patients had increased risk of 5-year mortality (aHR 1.16, 95%CI 1.01, 1.33); highest in 40-49 years old (aHR 1.89), and those with skin (aHR 1.65) or prostate cancer (aHR 4.74).

Conclusion: Hospitalised SLE patients had increased risk of multiple cancers, but a reduced risk of breast cancer. Following cancer development, SLE patients had increased risk of 5-year mortality. Together there is scope to improve cancer prevention and surveillance in SLE patients.

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POS0770 | INCREASED RISK OF FRACTURE, RECURRENT FRACTURE AND POST-FRACTURE MORTALITY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS: A POPULATION-LEVEL, LINKED DATA STUDY

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Background: Systemic lupus erythematosus (SLE) patients have higher fracture risk, driven by primary (chronic inflammation) and secondary (glucocorticoids treatment) osteoporosis. However, there is limited data on fracture recurrence and post-fracture mortality in this vulnerable population.

Objectives: To describe the association between systemic lupus erythematosus (SLE) and the risk of fracture(s), 5- and 10-year recurrent fracture(s), and 5-year post-fracture mortality, compared to hospital-based controls in Western Australia (WA) from 1980 - 2014.

Methods: Population-level cohort study of SLE patients (n=2,440, 28,002 person-years) and general population comparators (controls) (n=10,220, 161,392 person-years) identified within the Western Australia (WA) Rheumatic Disease Epidemiological Registry (WARDER). SLE patients 18-80 years old (identified by ICD-9-CM: 695.4, 710.0, ICD-10-AM: L93.0, M32.0) and controls were nearest matched (1:5) for age, sex, Aboriginality, and temporality. Follow-up was from timezero (index SLE hospitalisation) to fracture-related hospitalisation, death or 31/12/2014. Using longitudinal linked health data we determined the relative risk of (low impact) fracture-related hospitalisations (after excluding for traumatic and external factors, such as, falls from more than standing height and transport accidents), 5- and 10-year recurrent fractures, and 5-year post-fracture mortality between SLE patients and controls with multivariate Cox proportional hazards regression models from 1980-2014.

Results: Compared to general population controls, SLE patients had higher multivariate-adjusted risk (aHR 2.44, 95%CI 2.08, 2.87; P<0.01) of fractures during follow-up. SLE patients had higher fracture risk regardless of sex, Aboriginality, age group (highest in those <50 years of age), or study period (2000-2014: aHR 1.83, 95%CI 1.32, 2.53; P=0.001). SLE patients had higher risk of hand, wrist and forearm fractures (aHR 1.95), vertebral fractures (aHR 5.73), hip fractures (aHR 1.83), and lower limb, ankle and foot fractures (aHR 2.14). Similarly, SLE patients had higher risk of both 5- and 10-year (aHR 2.89 and 10-year (aHR 3.00) fracture recurrence, which held across sub-group analyses and remained high in the most recent 2000-2014 period (aHR 2.84 and aHR 3.04, respectively). SLE patients had higher (aHR 1.96, 95%CI 1.16, 2.89; P=0.01) risk of 5-year post-fracture mortality, which held for female SLE patients (aHR 1.45), those ≥70 years-old (aHR 1.72), and remained in the 2000-2014 period (aHR 1.57).