



## Fracture risk in systemic lupus erythematosus patients over 28 years

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### Abstract

**Objectives:** Chronic glucocorticoid use is complicated by osteoporosis and increases the risk of fragility fractures. EULAR guidelines on SLE management recommend reducing chronic glucocorticoid dosage to  $\leq 7.5$  mg/day to minimize this risk. We examined the relationship of glucocorticoid dose to fragility fracture risk in a cohort of SLE patients.

**Methods:** Retrospective analysis of SLE patients attending University College Hospital over 28 years was undertaken. Collected data included consecutive steroid dose, dual-energy X-ray absorptiometry scans and fragility fractures.

**Results:** We collected data on 250 patients with a median of 17 years' follow-up. Fragility fractures were diagnosed in 28 (11.2%) patients and the mean  $\pm$  s.d. age of first fracture was  $51 \pm 16$  years. A total of 94% received glucocorticoids, the average dose being 6.20 mg/day. Patients with fragility fractures had a lower average daily dose (5.36 vs 6.23 mg/day) but a higher median cumulative dose (25.19 vs 20.96 g). These differences were not significant ( $P = 0.127$  and  $0.229$ , respectively). Some 93% of patients received vitamin D, and 85% received calcium. Cox regression analysis showed older age at SLE diagnosis, osteoporosis and secondary hyperparathyroidism were associated with fragility fractures. Glucocorticoid dose was not significantly

associated with the occurrence of fragility fractures. Twenty-two patients with fractures were treated with bisphosphonates, two with denosumab and two with teriparatide.

**Conclusions:** We found no significant association between glucocorticoid treatment and fragility fractures in our group of patients; however, a prospective study including more patients not treated with CS would be necessary to confirm these results.

**Keywords:** glucocorticoids; osteoporosis, fractures; systemic lupus erythematosus

### **Key messages**

- Average daily or cumulative dosing of glucocorticoids were not associated with increased osteoporosis or fractures
- Glucocorticoid prescribing practice in our clinic has not changed during 28-years' follow-up in this study