SUPPLEMENTARY FILE

Additional Supporting Information may be found in the online version of this article at the publisher’s website.

SUPPLEMENTARY APPENDIX

Supplementary Data S1. Search strategy.

Supplementary Table S1. Quality assessment of included RCT studies

Supplementary Table S2. Quality assessment of included cohort studies

Supplementary Figure S1. Pooled OR of flare in LN and NP-SLE patients after GC discontinuation

Supplementary Figure S2. Pooled result of flare after GC discontinuation regarding disease duration

Supplementary Figure S3. Pooled result of flare after GC discontinuation regarding remission duration

Supplementary Figure S4. Pooled result of flare after GC discontinuation regarding GC duration

Supplementary Figure S5. Funnel plot representing selection bias risk
Supplementary Data S1: Search Terms

(systemic lupus erythematosus or lupus nephritis) and (glucocorticoid or glucocorticosteroid or corticosteroid or corticoid or steroid or prednisone or prednisolone or methylprednisolone) and (discontinuation or withdrawal or eliminate or cessation or stopping or tapered off or steroid-free or off treatment or remission) and (flare or relapse or losing remission)
### Supplementary Table S1: Quality assessment of RCT using (Cochrane Collaboration’s risk of Bias Assessment Tool).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathian et al, 2020</td>
<td>L</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
</tbody>
</table>

**Interpretation of risk of bias (Cochrane tool):**

<table>
<thead>
<tr>
<th>Risk of bias</th>
<th>Low risk</th>
<th>High risk</th>
<th>Unclear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation concealment</td>
<td>Intervention allocations likely could not have been foreseen in before or during enrollment</td>
<td>Selection bias (biased allocation to interventions) due to inadequate concealment of allocations prior to assignment</td>
<td>Not described in sufficient detail</td>
</tr>
<tr>
<td>Random sequence generation</td>
<td>Random sequence generation method should produce comparable group</td>
<td>Selection bias (biased allocation to interventions) due to inadequate generation of a randomized sequence</td>
<td>Not described in sufficient detail</td>
</tr>
<tr>
<td>Blinding</td>
<td>Blinding was likely effective.</td>
<td>Performance bias due to knowledge of the allocated interventions by participants and personnel during the study.</td>
<td>Not described in sufficient detail</td>
</tr>
<tr>
<td>Selective reporting</td>
<td>Selective outcome reporting bias not detected</td>
<td>Reporting bias due to selective outcome reporting</td>
<td>Insufficient information to permit judgment</td>
</tr>
<tr>
<td>Comparability of baseline</td>
<td>The characteristics between groups were comparable at baseline</td>
<td>Bias due to incomparable data at baseline</td>
<td>There may be a risk of bias, but there is either insufficient information to assess whether an important risk of bias exists or insufficient rationale or evidence that an identified problem will introduce bias</td>
</tr>
</tbody>
</table>
**Supplementary Table S2.** Quality assessment of cohort studies using the Newcastle-Ottawa scale

<table>
<thead>
<tr>
<th>Studies</th>
<th>Selection*</th>
<th>Representativeness of exposed cohort</th>
<th>Selection of non-exposed cohort</th>
<th>Ascertainment of exposure</th>
<th>Demonstration outcome not present at study start</th>
<th>Comparability*</th>
<th>Comparability of cohorts</th>
<th>Outcome*</th>
<th>Assessment of outcome</th>
<th>Follow-up enough for outcomes to occur</th>
<th>Adequacy of follow up</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euler, et al. 1994</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Arnal, et al. 2002</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Moroni, et al. 2013</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Nalotto, et al. 2017</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Goswami et al. 2018</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Tani, et al. 2019</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Tselios, et al. 2020</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Fasano, et al. 2021</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
</tr>
</tbody>
</table>

*Representativeness of the exposed cohort:
1: Given if representative of the average patient with systemic lupus erythematosus in the community.
0: Given if selected from a group of volunteers or derivation of the cohort is not described.

*Selection of the non-exposed cohort:
1: Given if drawn from the same community as the exposed cohort.
0: Given if selected from a group of volunteers or derivation of the cohort is not described.

*Ascertainment of exposure
1: Given if obtained by a secure record or structured interview.
0: Given if no description is given or self-report.

*Demonstration that outcome was not present at start of study:
1: Given if demonstrated.
0: Given if not demonstrated.

*Comparability of cohorts on the basis of design or analysis
2: Given if the general baseline characteristics were comparable, including age, gender, disease duration, etc.
0: Given if not demonstrated.

 Assessment of outcome:
1: Given if obtained by independent blind assessment or record linkage.
0: Given if obtained from self-report or not described.

Was follow-up long enough for outcomes to occur:
1: Given if follow-up was long than 12 months after glucocorticoids withdrawal for outcome to occur.
0: Given if follow-up was not long enough.

Adequacy of follow-up of cohorts:
1: Given if complete follow-up is provided or ≥90% of follow-up is provided.
0: Given if follow-up rate was <90% or no description is provided.
**Supplementary Figure S1.** Forest plots of the OR for the risk of flare in patients who stopped GC regarding major organ involvement: (A) LN; (B) NP-SLE. CI, confidence interval; OR, odd ratio; LN, lupus nephritis; NP, neuropsychiatric.

**Supplementary Figure S2.** Pooled result of flare after GC discontinuation regarding disease duration

**Supplementary Figure S3.** Pooled result of flare after GC discontinuation regarding remission duration
Supplementary Figure S4. Pooled result of flare after GC discontinuation regarding GC duration

Supplementary Figure S5: Funnel plot representing selection bias risk:
a) Flare risk after GCs discontinuation regarding age

P value (Egger's test) = 0.203
(Begg's test) = 0.806

b) Flare risk after GCs discontinuation regarding gender
c) Flare risk of SACQ versus not

P value (Egger's test) = 0.940
(Begg's test) = 1.000

d) Flare risk of concomitant use of HCQ versus not

P value (Egger's test) = 0.793
(Begg's test) = 0.734

e) Flare risk of concomitant use of IS versus not
P value (Egger's test) = 0.324  
(Begg's test) = 0.806

f) Flare risk regarding disease duration

P value (Egger's test) = 0.788  
(Begg's test) = 0.734

g) Flare risk regarding remission duration

P value (Egger's test) = 0.623  
(Begg's test) = 0.734

h) Flare risk regarding GC duration
P value (Egger's test) = 0.659
(Begg's test) = 1.000