

Supplemental Table 1. Search strategy.

| PubMed/MEDLINE  | Web of sciences   | Scopus   |
|---|---|--|
| <p>(((((((("Stroke"[Mesh] OR Stroke[Title/Abstract]) OR "ischemic stroke"[Title/Abstract]) OR "cerebral infarction"[Title/Abstract]) OR "cerebrovascular disease"[Title/Abstract]) OR "cerebrovascular disorder"[Title/Abstract]) OR "cerebral ischemia"[Title/Abstract]) OR "brain ischemia"[Title/Abstract]) OR "brain infarction"[Title/Abstract]) AND (((("Spondylitis, Ankylosing"[Mesh] OR "ankylosing spondylitis"[Title/Abstract]) OR spondyloarthritis[Title/Abstract]) OR spondyloarthropathy[Title/Abstract]) OR "Spondylarthritis"[Mesh])</p> | <p>TS= (Stroke OR "ischemic stroke" OR "cerebral infarction" OR "cerebrovascular disease" OR "cerebrovascular disorder" OR "cerebral ischemia" OR "brain ischemia" OR "brain infarction") AND TS=("ankylosing spondylitis" OR spondyloarthritis OR spondyloarthropathy)</p> | <p>(TITLE-ABS-KEY("ankylosing spondylitis") OR TITLE-ABS-KEY(spondyloarthritis)OR TITLE-ABS-KEY(spondyloarthropathy)) AND (TITLE-ABS-KEY(Stroke) OR TITLE-ABS-KEY("ischemic stroke") OR TITLE-ABS-KEY("cerebral infarction") OR TITLE-ABS-KEY("cerebrovascular disease") OR TITLE-ABS-KEY("cerebrovascular disorder") OR TITLE-ABS-KEY("cerebral ischemia") OR TITLE-ABS-KEY("brain ischemia") OR TITLE-ABS-KEY("brain infarction"))</p> |

**Supplementary Table 2:** Study quality assessments for the included cohort studies

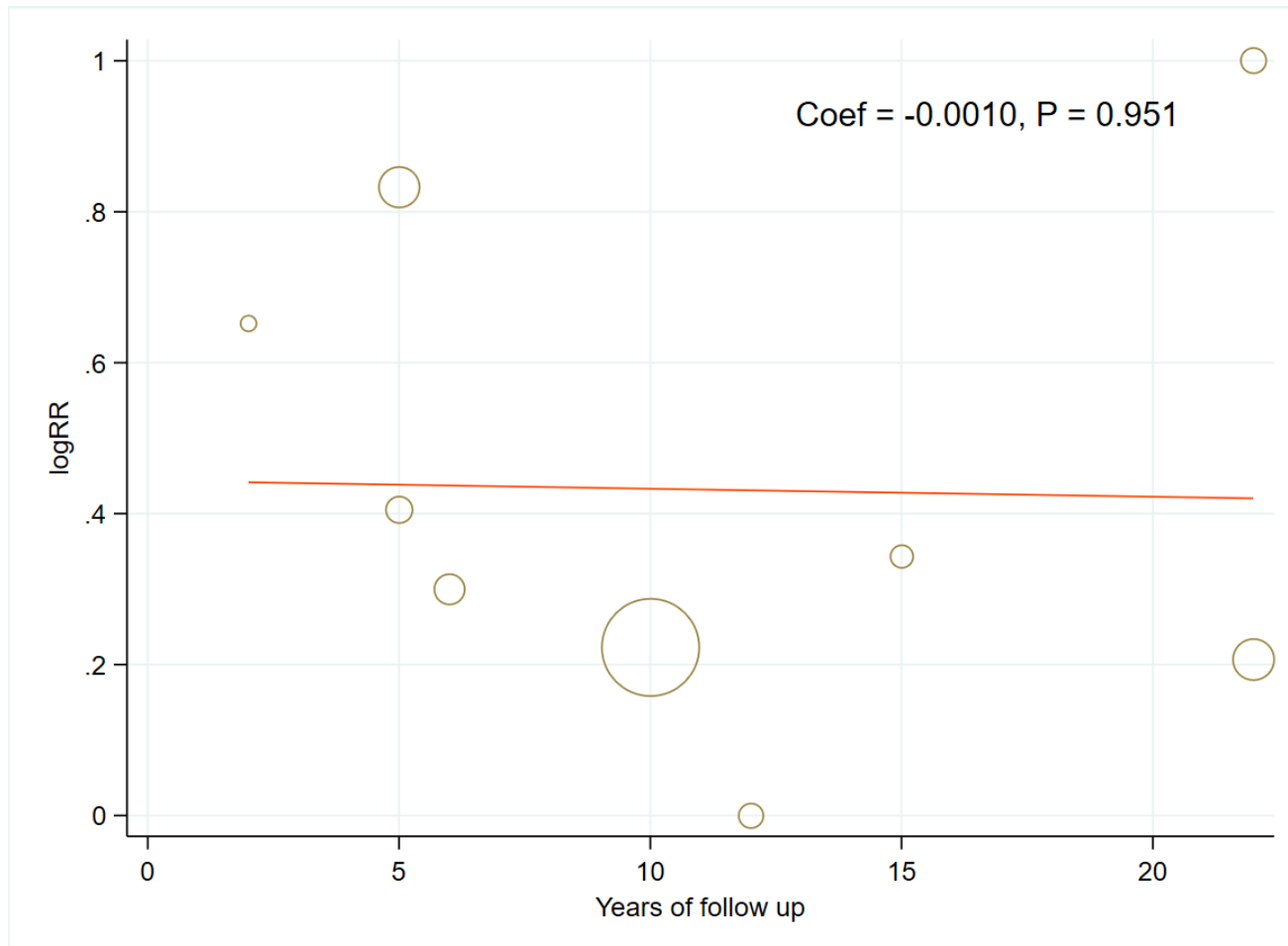
| <b>Studies</b>         | <b>Selection</b> | <b>Comparability</b> | <b>Outcome</b> | <b>Total</b> |
|------------------------|------------------|----------------------|----------------|--------------|
| Lee, D. H. et al.      | **               | *                    | ***            | 6            |
| Eriksson, J. K. et al. | ***              | **                   | ***            | 8            |
| Lin, C. W. et al.      | ***              | **                   | ***            | 8            |
| Keller, J. J. et al.   | **               | *                    | ***            | 6            |
| Zoller, B. et al.      | ***              | *                    | ***            | 7            |
| Brophy, S. et al.      | ***              | *                    | ***            | 7            |
| Szabo, S. M. et al.    | ***              | *                    | ***            | 7            |
| Trömmner, K. et al.    | ***              | **                   | ***            | 8            |

Newcastle-Ottawa Scale (Lewis et al. 2006) used by two independent investigators to assess the risk of bias.

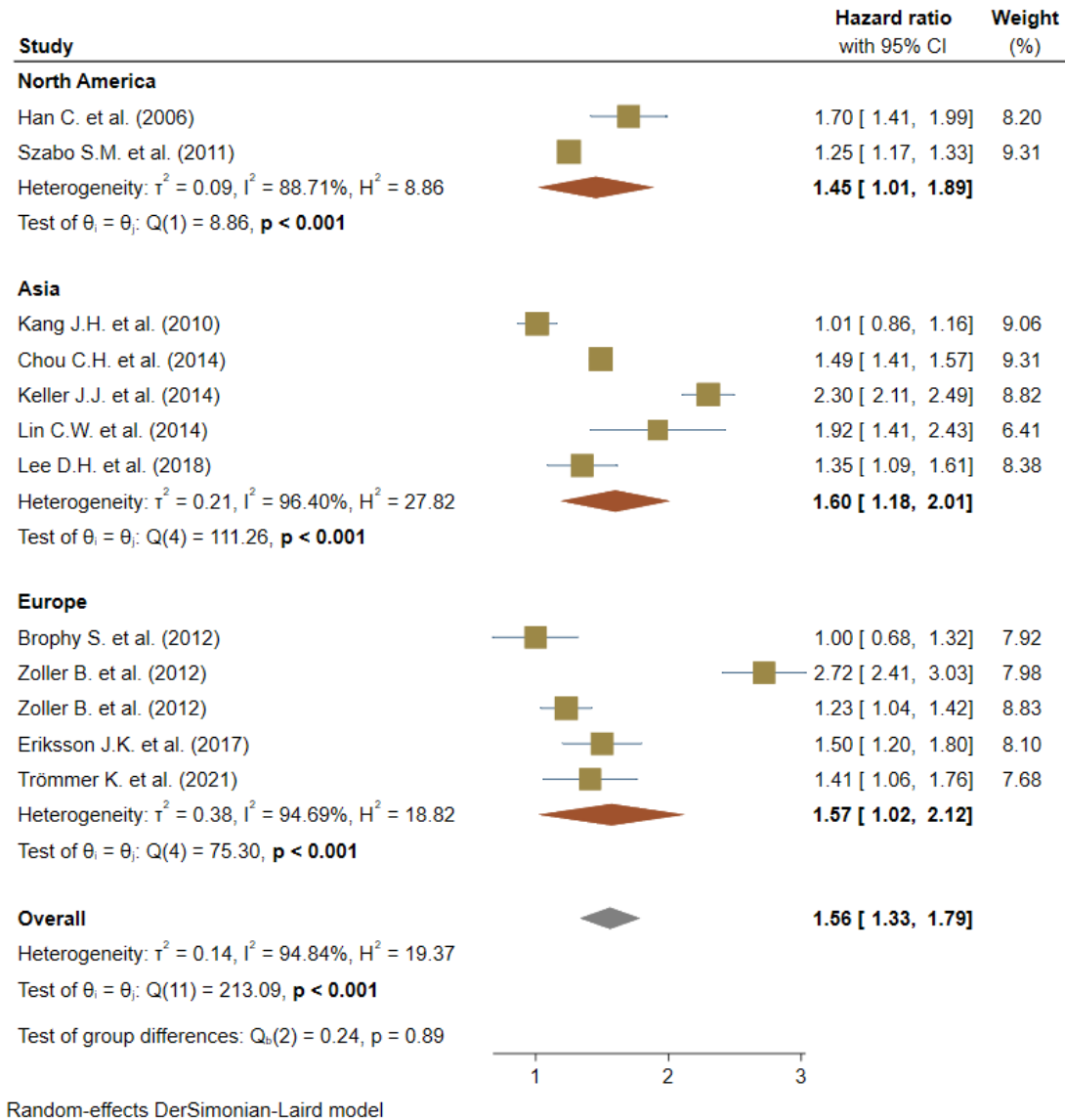
**Supplementary Table 2a:** Risk of bias assessments for the included **case-control** studies

| <b>Lead author, publication date</b> | <b>Selection</b> | <b>Comparability</b> | <b>Outcomes</b> |
|--------------------------------------|------------------|----------------------|-----------------|
| Chou, C. H. et al.                   | ****             | **                   | ***             |
| Kang, J. H. et al.                   | ***              | *                    | **              |
| Han, C. et al.                       | ****             | *                    | **              |

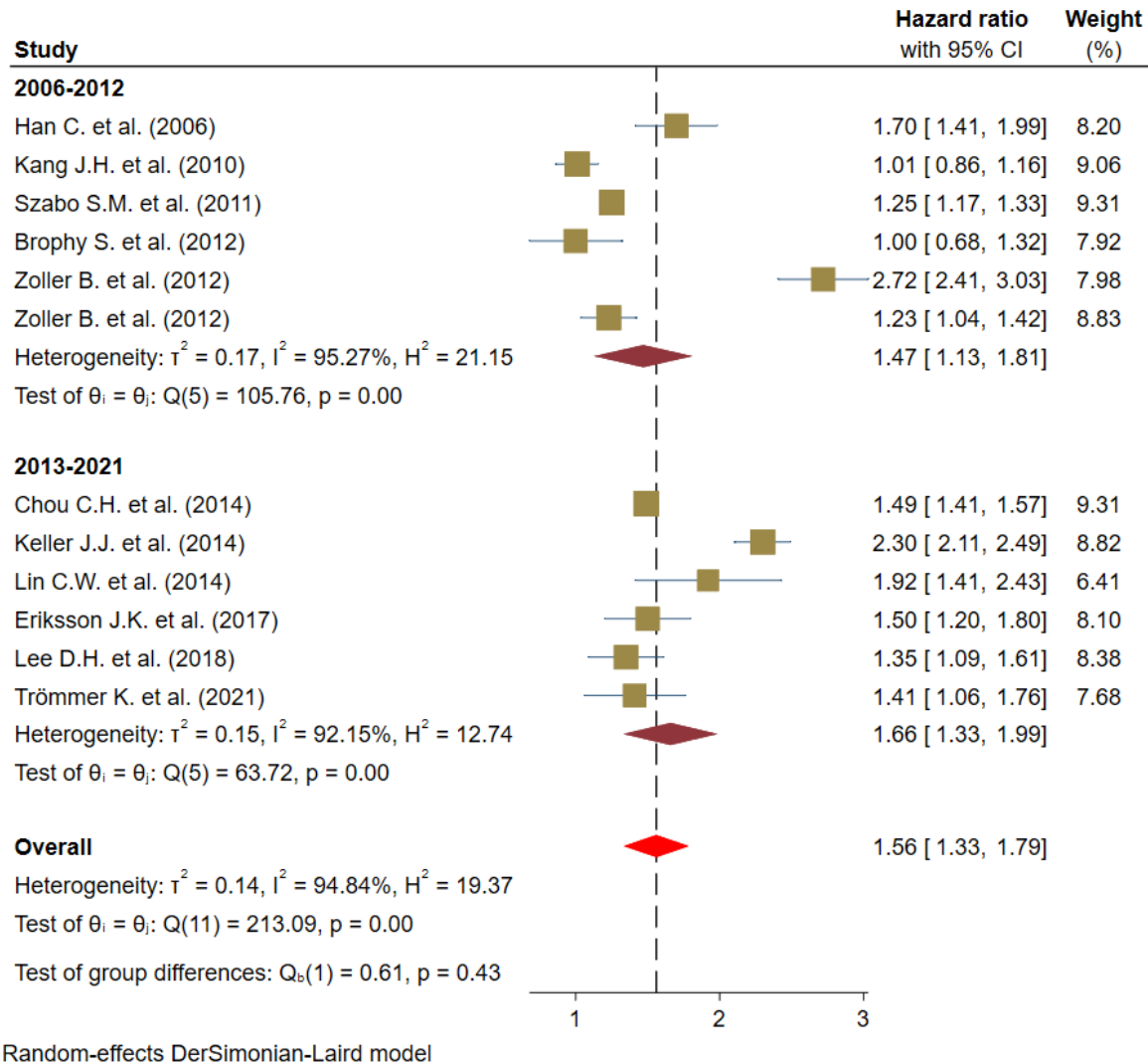
Newcastle-Ottawa quality assessment scale (adapted for **case-control** studies) used by two independent investigators to assess the risk of bias.



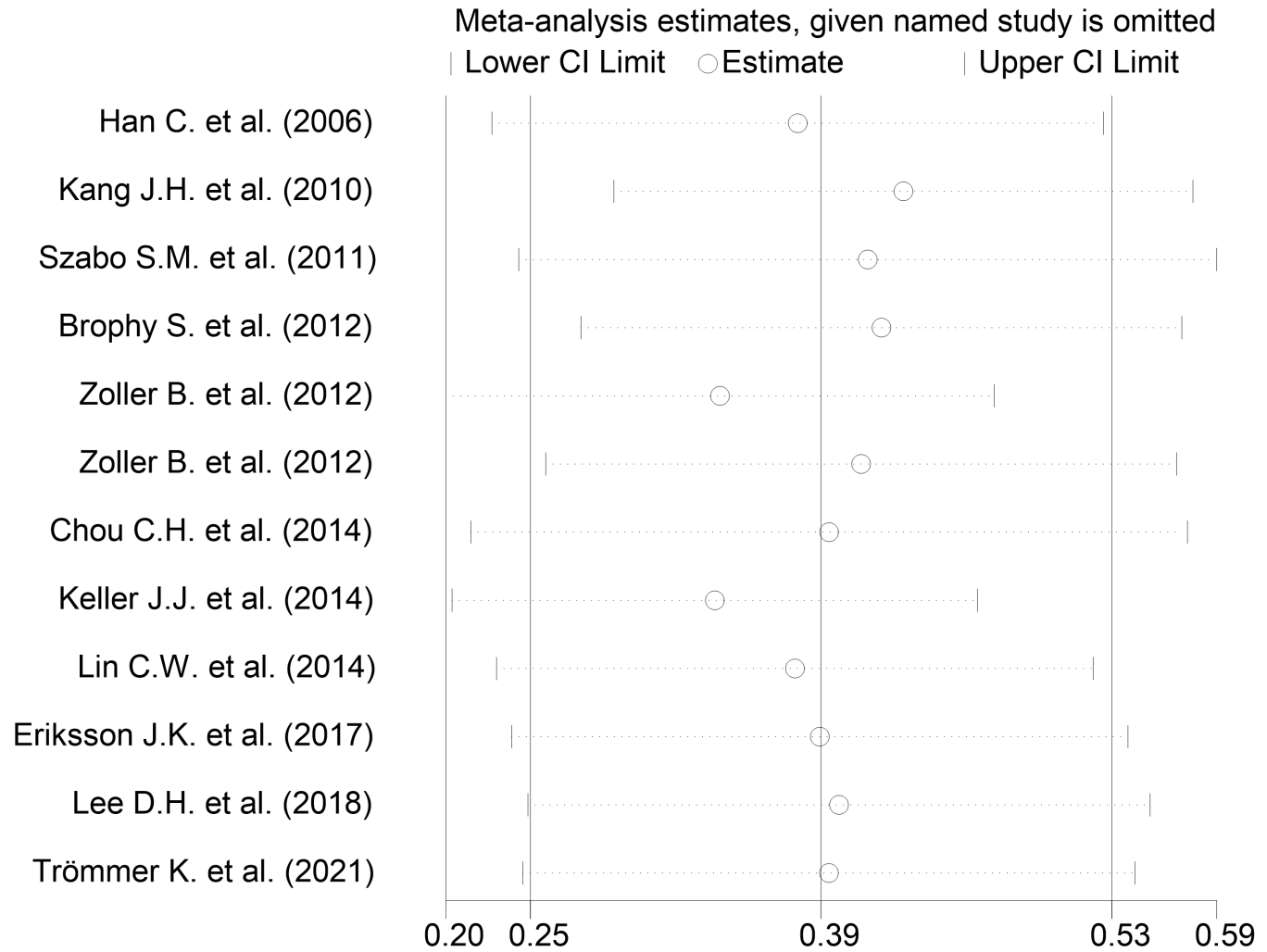
Supplemental Figures 1. Meta-regression analysis of relation between ankylosing spondylitis and stroke based on years of follow-up.



Supplemental Figures 2. Subgroup analysis of relation between ankylosing spondylitis and stroke based on study location.



Supplemental Figure 3: Association between ankylosing spondylitis and stroke based on the year of publication.



Supplemental Figure 4. Sensitivity analysis plot.