**Supplemental Table 1:** Quality assessment of studies according to the Downs and Black checklist. Articles have been assigned points, out of a possible 32, according to the referenced criteria.

| Reporting | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 | Q21 | Q22 | Q23 | Q24 | Q25 | Q26 | Q27 | Σ  |
|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Mino, 2010 | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 16  |
| Hashimoto, 2013 | 1  | 1  | 0  | 1  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 10  |
| Chihara, 2014 | 0  | 0  | 1  | 1  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 0  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 12  |
| Tempaku, 2015 | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 15  |
| El Kim, 2017 | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 1  | 18  |
| Matsumoto, 2017 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 1  | 17  |
| Ban, 2018 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 1  | 19  |
| Link, 2018 | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 1  | 19  |
| Nakugawa, 2019 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 17  |
| Ng, 2019 | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 1  | 20  |
| Okuma, 2019 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 0  | 0  | 0  | 0  | 1  | 0  | 0  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 14  |
| Waqas, 2019 | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 0  | 1  | 1  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 10  |
| Catapano, 2020 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 19  |
| Fan, 2020 | 1  | 1  | 1  | 0  | 1  | 0  | 1  | 1  | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 14  |
| Joyce, 2020 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1 | 0  | 0  | 1  | 0  | 0  | 0  | 1 | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 18  |
| Kan, 2020 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 19  |
| Mureh, 2020 | 1  | 1  | 0  | 1  | 0  | 1  | 0  | 1  | 0 | 0  | 0  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 0  | 0  | 0  | 12  |
| Rajah, 2020 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 19  |
| Shojar, 2020 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 1  | 0  | 0  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 18  |
| Yajima, 2020 | 1  | 1  | 1  | 1  | 0  | 1  | 1  | 0  | 0 | 0  | 1  | 0  | 0  | 1  | 0  | 0  | 1  | 0  | 1  | 1  | 1  | 1  | 0  | 0  | 0  | 1  | 0  | 13  |
Supplemental Table 2. Subgroup analysis of primary and secondary outcomes after upfront versus postoperative MMA embolization for cSDH.

Abbreviations: n = number, NR = not reported, MMA=middle meningeal artery, cSDH=chronic subdural hemorrhage.

* Weighted pooled proportions in percentage (%) with 95% confidence intervals are presented.
<table>
<thead>
<tr>
<th>Study, year</th>
<th>Uptfront MMA embolization, n (%)</th>
<th>Recurrence, n (%)</th>
<th>In-hospital complication, n (%)</th>
<th>Surgical rescue, n (%)</th>
<th>Surgery with MMA embolization, n (%)</th>
<th>Recurrence, n (%)</th>
<th>In-hospital complication, n (%)</th>
<th>Surgical rescue, n (%)</th>
</tr>
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<td>Mino, 2010</td>
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<td>0 (0)</td>
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<td>0 (0)</td>
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<td>0 (0)</td>
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<td>0 (0)</td>
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<td>0 (0)</td>
<td>0 (0)</td>
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</tr>
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<td>0 (0)</td>
<td>0 (0)</td>
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<tr>
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<td>0 (0)</td>
<td>0 (0)</td>
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<tr>
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<td>0 (0)</td>
<td>0 (0)</td>
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<td>1 (5.3)</td>
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<td>Waqas, 2019</td>
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<td>0 (0)</td>
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<td>6 (6.7)</td>
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<tr>
<td>Yajima, 2020</td>
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<tr>
<td>Total n (%)</td>
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<td>0/43 (0)</td>
<td>256</td>
<td>11/256 (4.3)</td>
<td>9/256 (3.5)</td>
<td>7/239 (2.9)</td>
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<td>Pooled estimate*</td>
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<td>0 [0.0 to 0.0]</td>
<td>0 [0.0 to 0.0]</td>
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<td>2.8 [0.7 to 4.8]</td>
<td>2.9 [0.8 to 5.0]</td>
<td></td>
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</tr>
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</table>
Supplemental Figure 1: PRISMA flow diagram outlining the study selection process.