Figure e-1: PRISMA flow diagram describing identification, screening, eligibility, and inclusion of studies in the systematic review

Figure e-2: Association between diabetes mellitus and the occurrence of ICH in 16 case-control studies that attempted to control for age and sex.

Figure e-3: Association between diabetes mellitus and the occurrence of ICH in 19 case-control studies, stratified by ICH type and ordered by mid-year of each study sample (if known)

Appendix e-1: Electronic search strategies

e-References
Supplemental data

Figure e-1: PRISMA flow diagram describing identification, screening, eligibility, and inclusion of studies in the systematic review

**IDENTIFICATION**
- Medline & Embase (n=4331)
- Hand search and bibliography screening (n=20)
- Unique studies after duplicates removed (n=3838)

**SCREENING**
- Titles screened (n=3838)
- Excluded (n=2960)
- Abstracts screened (n=878)
- Excluded (n=329)

**ELIGIBILITY**
- Full-texts screened (n=549)
- Excluded (n=500):
  - Outcomes did not meet our inclusion criteria (n=448)
  - Other reports of included studies (n=6)
  - ICH data impossible to separate from other subtypes of stroke (n=46)

**INCLUSION**
- In qualitative synthesis (n=49):
  - Occurrence of ICH (n=23)
  - Outcome of ICH (n=26)
- In quantitative synthesis (meta-analysis) (n=40):
  - Occurrence of ICH (n=22)
  - Outcome of ICH (n=18)
Figure e-2: Association between diabetes mellitus (DM) and the occurrence of ICH in 16 case-control studies that attempted to control for age and sex and ordered by mid-year of each study sample (if known)

Year: Study mid-year
Events: Number of people with diabetes mellitus

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>With ICH Events</th>
<th>Without ICH Events</th>
<th>Weight</th>
<th>Odds Ratio M-H, Random, 95% CI</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ref 20</td>
<td>14 156</td>
<td>24 332</td>
<td>6.8%</td>
<td>1.27 [0.64, 2.52]</td>
<td></td>
</tr>
<tr>
<td>Ref 27</td>
<td>35 217</td>
<td>41 283</td>
<td>11.6%</td>
<td>1.14 (0.70, 1.85)</td>
<td></td>
</tr>
<tr>
<td>Ref 25</td>
<td>26 165</td>
<td>22 75</td>
<td>7.5%</td>
<td>0.45 (0.24, 0.86)</td>
<td></td>
</tr>
<tr>
<td>Ref 15</td>
<td>10 70</td>
<td>24 239</td>
<td>5.3%</td>
<td>1.49 (0.68, 3.29)</td>
<td>1988</td>
</tr>
<tr>
<td>Ref 30</td>
<td>18 130</td>
<td>13 130</td>
<td>5.7%</td>
<td>1.43 (0.68, 3.09)</td>
<td>1988</td>
</tr>
<tr>
<td>Ref 17</td>
<td>16 135</td>
<td>15 117</td>
<td>5.8%</td>
<td>0.91 (0.43, 1.94)</td>
<td>1989</td>
</tr>
<tr>
<td>Ref 12</td>
<td>26 331</td>
<td>30 331</td>
<td>9.8%</td>
<td>0.66 (0.49, 1.48)</td>
<td>1991</td>
</tr>
<tr>
<td>Ref 19</td>
<td>18 158</td>
<td>13 158</td>
<td>5.9%</td>
<td>1.43 (0.68, 3.04)</td>
<td>1993</td>
</tr>
<tr>
<td>Ref 14</td>
<td>10 98</td>
<td>17 206</td>
<td>5.0%</td>
<td>1.26 (0.56, 2.87)</td>
<td>1994</td>
</tr>
<tr>
<td>Ref 22</td>
<td>24 242</td>
<td>23 242</td>
<td>8.2%</td>
<td>0.96 (0.53, 1.73)</td>
<td>1996</td>
</tr>
<tr>
<td>Ref 24</td>
<td>24 217</td>
<td>21 419</td>
<td>3.8%</td>
<td>2.36 (1.28, 4.34)</td>
<td>1996</td>
</tr>
<tr>
<td>Ref 23</td>
<td>29 130</td>
<td>27 130</td>
<td>8.7%</td>
<td>1.10 (0.61, 1.98)</td>
<td>1999</td>
</tr>
<tr>
<td>Ref 11</td>
<td>6 98</td>
<td>15 299</td>
<td>3.7%</td>
<td>1.23 (0.47, 3.28)</td>
<td>2000</td>
</tr>
<tr>
<td>Ref 29</td>
<td>11 45</td>
<td>7 45</td>
<td>3.2%</td>
<td>1.76 (0.61, 5.04)</td>
<td>2003</td>
</tr>
<tr>
<td>Ref 18</td>
<td>8 24</td>
<td>11 48</td>
<td>3.0%</td>
<td>1.68 (0.57, 4.97)</td>
<td>2004</td>
</tr>
<tr>
<td>Ref 26</td>
<td>2 27</td>
<td>2 30</td>
<td>0.9%</td>
<td>1.12 (0.15, 8.35)</td>
<td>2010</td>
</tr>
</tbody>
</table>

Total (95% CI)  2243  3084 100.0%  1.15 [0.95, 1.40]
Figure e-3: Association between diabetes mellitus (DM) and the occurrence of ICH in 19 case-control studies, stratified by ICH type and ordered by mid-year of each study sample (if known)

Year: Study mid-year
Events: Number of people with diabetes mellitus

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>With ICH</th>
<th>Without ICH</th>
<th>Odd Ratio M-H, Random, 95% CI</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Events</td>
<td>Total</td>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>6.1.1 First-ever ICH</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ref 25</td>
<td>26</td>
<td>165</td>
<td>22 75 5.2%</td>
<td>0.45 [0.24, 0.86]</td>
</tr>
<tr>
<td>Ref 20</td>
<td>14</td>
<td>156</td>
<td>24 332 4.8%</td>
<td>1.27 [0.64, 2.52]</td>
</tr>
<tr>
<td>Ref 15</td>
<td>10</td>
<td>70</td>
<td>24 259 3.8%</td>
<td>1.49 [0.68, 3.25]</td>
</tr>
<tr>
<td>Ref 27</td>
<td>35</td>
<td>217</td>
<td>41 283 8.0%</td>
<td>1.14 [0.70, 1.85]</td>
</tr>
<tr>
<td>Ref 21</td>
<td>6</td>
<td>116</td>
<td>11 155 2.4%</td>
<td>0.71 [0.28, 1.99] 1985</td>
</tr>
<tr>
<td>Ref 17</td>
<td>16</td>
<td>135</td>
<td>15 177 4.1%</td>
<td>0.91 [0.43, 1.94] 1989</td>
</tr>
<tr>
<td>Ref 12</td>
<td>26</td>
<td>331</td>
<td>30 331 6.8%</td>
<td>0.86 [0.49, 1.48] 1991</td>
</tr>
<tr>
<td>Ref 19</td>
<td>18</td>
<td>158</td>
<td>13 158 4.1%</td>
<td>1.43 [0.68, 3.04] 1993</td>
</tr>
<tr>
<td>Ref 22</td>
<td>24</td>
<td>242</td>
<td>25 242 6.1%</td>
<td>0.96 [0.53, 1.73] 1994</td>
</tr>
<tr>
<td>Ref 24</td>
<td>24</td>
<td>217</td>
<td>21 419 5.8%</td>
<td>2.36 [1.28, 4.34] 1996</td>
</tr>
<tr>
<td>Ref 23</td>
<td>29</td>
<td>130</td>
<td>27 130 6.1%</td>
<td>1.10 [0.61, 1.98] 1999</td>
</tr>
<tr>
<td>Ref 11</td>
<td>6</td>
<td>98</td>
<td>15 299 2.6%</td>
<td>1.23 [0.47, 3.28] 2000</td>
</tr>
<tr>
<td>Ref 18</td>
<td>8</td>
<td>24</td>
<td>11 48 2.2%</td>
<td>1.68 [0.57, 4.97] 2004</td>
</tr>
<tr>
<td>Ref 26</td>
<td>2</td>
<td>27</td>
<td>2 30 0.6%</td>
<td>1.12 [0.15, 8.35] 2010</td>
</tr>
<tr>
<td>Ref 10</td>
<td>44</td>
<td>261</td>
<td>51 425 9.4%</td>
<td>1.49 [0.96, 2.20] 2010</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>2347</td>
<td>3283</td>
<td>71.8%</td>
<td>1.14 [0.93, 1.40]</td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.04; Ch² = 18.65, df = 14 (P = 0.18); I² = 25%
Test for overall effect: Z = 1.24 (P = 0.22)

6.1.2 Mixed or unspecified ICH

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>With ICH</th>
<th>Without ICH</th>
<th>Odd Ratio M-H, Random, 95% CI</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Events</td>
<td>Total</td>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>Ref 30</td>
<td>18</td>
<td>130</td>
<td>13 130 4.0%</td>
<td>1.45 [0.68, 3.09] 1988</td>
</tr>
<tr>
<td>Ref 14</td>
<td>10</td>
<td>98</td>
<td>17 206 3.5%</td>
<td>1.26 [0.56, 2.87] 1994</td>
</tr>
<tr>
<td>Ref 29</td>
<td>11</td>
<td>45</td>
<td>7 45 2.3%</td>
<td>1.76 [0.61, 5.04] 2003</td>
</tr>
<tr>
<td>Ref 16</td>
<td>151</td>
<td>777</td>
<td>285 2083 18.1%</td>
<td>1.52 [1.22, 1.89] 2006</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>1050</td>
<td>2464</td>
<td>28.2%</td>
<td>1.51 [1.24, 1.84]</td>
</tr>
</tbody>
</table>

Heterogeneity: Tau² = 0.00; Ch² = 0.28, df = 3 (P = 0.96); I² = 0%
Test for overall effect: Z = 4.05 (P < 0.0001)

Total (95% CI) 3397 5747 100.0% 1.23 [1.04, 1.45]

Heterogeneity: Tau² = 0.03; Ch² = 23.11, df = 18 (P = 0.19); I² = 22%
Test for overall effect: Z = 2.45 (P = 0.01)
Test for subgroup differences: Ch² = 3.71, df = 1 (P = 0.05), I² = 73.1%
Appendix e-1: Electronic search strategies

OVID (Medline)

1. Intracranial Hemorrhages/
2. cerebral hemorrhage/ or basal ganglia hemorrhage/ or intracranial hemorrhage, hypertensive/
3. brain$.mp.
4. cerebr$.mp.
5. cerebell$.mp.
6. intracerebral.mp.
7. intracran$.mp.
8. parenchymal.mp.
9. intraventricular.mp.
10. infratentorial.mp.
11. supratentorial.mp.
12. basal gangli$.mp.
13. putaminal.mp.
14. putamen.mp. or Putamen/
15. Cranial Fossa, Posterior/ or posterior fossa.mp.
16. bleed$.mp.
17. exp Diabetes Mellitus/
18. diabet$.mp.
19. exp Insulin/
20. insulin$.mp.
21. non insulin$.mp.
22. insulin$ depend$.mp.
23. non insulin$ depend$.mp.
24. risk factor$.mp. or Risk Factors/
25. mortality/ or "cause of death"/ or fatal outcome/ or hospital mortality/ or survival rate/
26. h?emorrhage$.mp.
27. h?ematoma$.mp.
28. prognosis/ or disease-free survival/ or treatment outcome/
29. prognos$.mp.
30. exp case-control studies/ or exp cohort studies/
Supplemental data

31. case control stud$.mp.
32. cohort$.mp.
33. 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15
34. 16 or 26 or 27
35. 33 and 34
36. 1 or 2 or 35
37. 17 or 18 or 19 or 20 or 21 or 22 or 23
38. 24 or 25 or 28 or 29 or 30 or 31 or 32
39. 36 and 37 and 38
40. limit 39 to humans
41. limit 40 to yr="1980 -Current"

OVID (Embase)

1. putaminal hemorrhage/ or basal ganglion hemorrhage/
2. brain hemorrhage/ or brain ventricle hemorrhage/ or cerebellum hemorrhage/
3. brain$.mp.
4. cerebr$.mp.
5. cerebell$.mp.
6. intracerebral.mp.
7. intracran$.mp.
8. parenchymal.mp.
9. intraventricular.mp.
10. posterior fossa/ or infratentorial.mp.
11. supratentorial.mp.
12. basal gangli$.mp.
13. bleeding/
14. risk factor/
15. outcome variable/ or outcome.mp.
16. haemorrhage$.mp.
17. hemorrhage$.mp.
18. hematoma$.mp.
19. haematoma$.mp.
20. mortality/
21. prognosis.mp.
22. case control study/
23. retrospective studies.mp. or retrospective study/
24. cohort analysis/
25. 22 or 23 or 24
26. 14 or 15 or 20 or 21
27. 1 or 2
28. putaminal.mp. or putamen/
29. 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 28
30. 13 or 16 or 17 or 18 or 19
31. 29 and 30
32. 27 or 31
33. diabetes mellitus/ or insulin dependent diabetes mellitus/ or non insulin dependent diabetes mellitus/
34. 25 or 26
35. diabet$.mp.
36. 33 or 35
37. 32 and 34 and 36
38. limit 37 to human
39. limit 38 to yr="1980 -Current"
40. limit 39 to conference abstract
41. 39 not 40
e-References


