Online supplement 8

Table: Sensitivity analysis: proportions and incidence rates of CVAD failure per device by ROB and prospective/retrospective studies

|  |  |  |
| --- | --- | --- |
|  | Proportion of failure | Incidence Rates of failure per 1000 catheter days |
| CVAD type | Studies | CVADs | Outcomes | Pooled % | 95% CI | Studies | Catheter days | Outcomes | Pooled IR | 95% CI |
| NTCVAD |  |  |  |  |  |  |  |  |  |  |
|  ROB: All | 41 | 22,635 | 885 | 4 d,e,h | 3-6 | 35 | 210,114 | 813 | 5.18 d,e,h | 4.13-6.24 |
|  ROB 5 | 25 | 17,151 | 679 | 5 d,e | 3-7 | 24 | 183,184 | 676 | 5.96 d,e | 4.61-7.30 |
|  ROB <4 | 16 | 5,484 | 206 | 3 d,e | 1-6 | 11 | 26,930 | 137 | 3.71 d,e  | 1.68-5.75 |
|  Study type: All | 41 | 22,635 | 885 | 4 d,e,h | 3-6 | 35 | 210,114 | 813 | 5.18 d,e,g | 4.13-6.24 |
|  Prospective | 38 | 22,115 | 861 | 4 d,e | 3-6 | 33 | 207,160 | 793 | 5.17 d,e | 4.09-6.25 |
|  Retrospective | 3 | 520 | 24 | 4 a,e | 1-8 | 2 | 2,954 | 20 | 5.42 d,f | 0.00-11.8 |
| PICC |  |  |  |  |  |  |  |  |  |  |
|  ROB: All | 9 | 1,654 | 100 | 6 d,e,h | 2-12 | 6 | 13,078 | 58 | 3.98 d,e,g | 0.57-7.40 |
|  ROB 5 | 5 | 640 | 22 | 5 d,f | 0-17 | 5 | 6,533 | 22 | 3.70 c,f | 0.00-8.24 |
|  ROB <4 | 4 | 1,014 | 78 | 8 d,e | 2-16 | 1 | 6,545 | 36 | 5.50 a,e | 3.62-7.38 |
|  Study type: All | 9 | 1,654 | 100 | 6 d,e,h | 2-12 | 6 | 13,078 | 58 | 3.98 d,e,g  | 0.57-7.40 |
|  Prospective | 6 | 679 | 36 | 8 d,e | 0-24 | 5 | 6,533 | 22 | 3.70 c,f | 0.00-8.24 |
|  Retrospective | 3 | 975 | 64 | 4 a,e | 1-9 | 1 | 6,545 | 36 | 5.50 a,e | 3.62-7.38 |
| HD |  |  |  |  |  |  |  |  |  |  |
|  ROB: All | 4 | 1,481 | 130 | 7 d,e | 3-12 | 3 | 8,809 | 124  | 11.2 d,f | 0.00-22.9 |
|  ROB 5 | 0 | - | - | - | - | 0 | - | - | - | - |
|  ROB <4 | 4 | 1,481 | 130 | 7 d,e | 3-12 | 3 | 8,809 | 124  | 11.2 d,f | 0.00-22.9 |
|  Study type: All | 4 | 1,481 | 130 | 7 d,e,h | 3-12 | 3 | 8,809 | 124 | 11.2 d,f,g | 0.00-22.9 |
|  Prospective | 2 | 909 | 85 | 9 a,e | 7-11 | 2 | 5,769 | 85 | 10.5 d,f | 0.00-28.7 |
|  Retrospective | 2 | 572 | 45 | 8 a,e | 6-10 | 1 | 3,040 | 39 | 12.8 a,e | 8.62-17.0 |

CVAD: Central Vascular Access Devices CI: confidence intervals IR: incidence rate NTCVAD: Non-tunnelled central venous access device PICC: Peripherally inserted central catheter HD: Haemodialysis catheter ROB: Risk of Bias

Heterogeneity of studies a cannot be calculated, blow (<25%), c moderate (25%-75%), or d high (>75%).

Effect-size test e significant or f nonsignificant.

Test for heterogeneity between subgroups g significant or h nonsignificant.