**DATA SUPPLEMENT**

**Supplemental Table 1. Logistic regression analysis of risk factors for ISR**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | | B | S.E. | Odds Ratio | 95% Confidence Interval | p |
| Clinical characteristics | |  |  |  |  |  |
|  | Age | 0.01 | 0.01 | 1.01 | 0.98,1.04 | 0.49 |
|  | Gender | -0.25 | 0.39 | 0.78 | 0.37,1.66 | 0.52 |
|  | Diabetes | -0.15 | 0.24 | 0.86 | 0.54,1.37 | 0.52 |
|  | Hypertension | -0.12 | 0.26 | 0.89 | 0.53,1.49 | 0.66 |
|  | Hyperlipidemia | 0.36 | 0.25 | 1.43 | 0.88,2.33 | 0.15 |
|  | Smoke | 0.16 | 0.27 | 1.18 | 0.69,2.01 | 0.55 |
|  | Posterior TIA | -0.73 | 0.54 | 0.48 | 0.17,1.38 | 0.17 |
|  | Posterior CF | 0.28 | 0.26 | 1.33 | 0.79,2.22 | 0.28 |
| Stent information | |  |  |  |  |  |
|  | Type Ⅰ\* | -1.18 | 0.39 | 0.31 | 0.14,0.66 | 0.00\* |
|  | Type Ⅱ† | -1.19 | 1.11 | 0.30 | 0.04,2.65 | 0.28 |
|  | Length | -0.01 | 0.04 | 0.99 | 0.91,1.07 | 0.77 |
|  | Diameter | -0.40 | 0.24 | 0.67 | 0.42,1.06 | 0.09 |
|  | Side‡ | -0.38 | 0.24 | 0.68 | 0.43,1.10 | 0.12 |

\*Drug-eluting stent compared with bare metal stent.

†Self-expanding stent compared with balloon-expanded stent.

‡Right side compared with left.

**Supplemental Table 2. Doppler parameters comparison analysis at day 1 and at restenosis.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. of patients | Items | Hemodynamic parameters (cm/s) | | | |
|  |  | PSVos | EDVos | PSVis | EDVis |
| N=420 | Pre-stenting | 307±103 | 89 (68,119) | 45 (32,61) | 20 (14,26) |
|  | Day 1 Post-stenting | 109±31 | 29 (25,36) | 66 (55,80) | 23 (19,29) |
|  | T/Z | 39.16 | -17.13 | -14.09 | -9.06 |
|  | p | 0.00 | 0.00 | 0.00 | 0.00 |
| N=120 | Day 1 Post-stenting | 110±26 | 31 (26,37) | 68 (59,79) | 24 (21,29) |
|  | Restenosis | 224±79 | 67 (52,83) | 66 (53,80) | 24 (20,28) |
|  | T/Z | -15.78 | -8.86 | -2.96 | -2.64 |
|  | p | 0.00 | 0.00 | 0.00 | 0.01 |

**Supplemental Table 3. Doppler parameters analysis at day 1 post stenting.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Parameters (cm/s) | | | |
|  | PSVos | EDVos | PSVis | EDVis |
| N-OCC | 102±30 | 27(24,33) | 63(54,75) | 22(19,26) |
| ICA-OCC | 108±31 | 29(25,35) | 72(58,88) | 28(21,32) |
| CVA-OCC | 121±28 | 33(28,41) | 74(61,88) | 26(22,33) |
| C-OCC | 143±31 | 42(35,50) | 80(73,95) | 35(27,40) |
| p\* | 0.00 | 0.00 | 0.00 | 0.00 |
| p† | 0.22 | 0.10 | 0.02 | 0.00 |
| p‡ | 0.00 | 0.00 | 0.00 | 0.00 |
| p§ | 0.00 | 0.00 | 0.00 | 0.00 |
| p|| | 0.01 | 0.04 | 0.03 | 0.01 |

Note: \* ANOVA or Kruskal-Wallis test among groups

†ICA-OCC compare with N-OCC

‡ CVA-OCC compare with N-OCC

§C-OCC compare with N-OCC

|| C-OCC compare with CVA-OCC.



Supplemental Figure Ⅰ. Flow diagram summarizes patient enrollment process.



Supplemental Figure 2. Incidence of ISR in different groups. BMS: Bare metal stent, DES: drug-eluting stent.



Supplemental Figure 3. CDU images of day 1 post-stenting and restenosis occurred. B-mode (A) and spectrum (B) images are acquired at 1 day after the stenting procedure, compared with B-mode (C) and spectrum (D) images obtained at the day diagnosed ISR. Arrow: Stent site.



Supplemental Figure 4. Repeatability was analyzed by Bland-Altman Plots (A-B) and linear correlation analysis (C-D) in inter- and intragroup. Bland-Altman analysis showed a consistent trend in the difference value and the mean value of PSV by repeated measurement. The results showed that inter and intragroup comparison had a high degree of consistency.