

**Supplemental Digital Content 3. Multivariate analysis of risk factors associated with anal SCC in HIV-positive subjects in models including tobacco use.**

| Multivariate Models                | CD4 variables lagged 1 year |                  |                    |                  | CD4 variables lagged 6 years |                  |                    |                  | CD4 variables nadir |                  |                    |                  |
|------------------------------------|-----------------------------|------------------|--------------------|------------------|------------------------------|------------------|--------------------|------------------|---------------------|------------------|--------------------|------------------|
|                                    | IRR (95%CI)                 | <i>p</i>         | IRR (95%CI)        | <i>p</i>         | IRR (95%CI)                  | <i>p</i>         | IRR (95%CI)        | <i>p</i>         | IRR (95%CI)         | <i>p</i>         | IRR (95%CI)        | <i>p</i>         |
| HBV past or current                | 3.19 (1.28, 7.98)           | <b>0.013</b>     | 3.21 (1.29, 8.03)  | <b>0.011</b>     | 3.09 (1.25, 7.66)            | <b>0.015</b>     | 3.0 (1.21, 7.47)   | <b>0.018</b>     | 2.98 (1.19, 7.45)   | <b>0.02</b>      | 3.06 (1.23, 7.66)  | <b>0.017</b>     |
| Age group:                         |                             |                  |                    |                  |                              |                  |                    |                  |                     |                  |                    |                  |
| 30-49                              | Reference                   |                  | Reference          |                  | Reference                    |                  | Reference          |                  | Reference           |                  | Reference          |                  |
| 50-59                              | 5.14 (2.61, 10.14)          | <b>&lt;0.001</b> | 5.23 (2.65, 10.3)  | <b>&lt;0.001</b> | 5.15 (2.61, 10.16)           | <b>&lt;0.001</b> | 5.13 (2.60, 10.11) | <b>&lt;0.001</b> | 5.02 (2.55, 9.89)   | <b>&lt;0.001</b> | 5.01 (2.55, 9.88)  | <b>&lt;0.001</b> |
| 60-70                              | 4.94 (1.94, 12.54)          | <b>&lt;0.001</b> | 5.07 (2.00, 12.85) | <b>&lt;0.001</b> | 4.94 (1.94, 12.53)           | <b>0.001</b>     | 4.78 (1.89, 12.12) | <b>&lt;0.001</b> | 4.86 (1.92, 12.33)  | <b>&lt;0.001</b> | 4.79 (1.89, 12.15) | <b>&lt;0.001</b> |
| Race:                              |                             |                  |                    |                  |                              |                  |                    |                  |                     |                  |                    |                  |
| Non-African American               | Reference                   |                  | Reference          |                  | Reference                    |                  | Reference          |                  | Reference           |                  | Reference          |                  |
| African American                   | 0.96 (0.45, 2.06)           | 0.915            | 0.96 (0.45, 2.07)  | 0.921            | 0.95 (0.44, 2.03)            | 0.937            | 0.96 (0.44, 2.06)  | 0.909            | 0.99 (0.46, 2.13)   | 0.974            | 0.99 (0.46, 2.14)  | 0.989            |
| No HAART use                       | 0.53 (0.17, 1.63)           | 0.268            | 0.51 (0.17, 1.56)  | 0.238            | 0.66 (0.22, 2.00)            | 0.539            | 0.72 (0.24, 2.16)  | 0.553            | 0.65 (0.21, 1.98)   | 0.447            | 0.67 (0.22, 2.05)  | 0.488            |
| CD4+ count ≥500 cells/μl           | Reference                   |                  | -                  |                  | Reference                    |                  | -                  |                  | -                   |                  | -                  |                  |
| CD4+ count <500 cells/μl           | 2.4 (1.28, 4.48)            | <b>0.006</b>     | -                  |                  | 2.42 (1.29, 4.55)            | <b>0.006</b>     | -                  |                  | -                   |                  | -                  |                  |
| CD4:CD8 ratio ≥0.5                 | -                           |                  | Reference          |                  | -                            |                  | Reference          |                  | -                   |                  | -                  |                  |
| CD4:CD8 ratio <0.5                 | -                           |                  | 2.3 (1.26, 4.20)   | <b>0.007</b>     | -                            |                  | 2.65 (1.43, 4.91)  | <b>0.002</b>     | -                   |                  | -                  |                  |
| CD4+ nadir ≥350 cells/μl           | -                           |                  | -                  |                  | -                            |                  | -                  |                  | Reference           |                  | -                  |                  |
| CD4+ nadir <350 cells/μl           | -                           |                  | -                  |                  | -                            |                  | -                  |                  | 2.21 (0.87, 5.62)   | 0.096            | -                  |                  |
| CD4:CD8 nadir ≥0.5                 | -                           |                  | -                  |                  | -                            |                  | -                  |                  | -                   |                  | Reference          |                  |
| CD4:CD8 nadir <0.5                 | -                           |                  | -                  |                  | -                            |                  | -                  |                  | -                   |                  | 2.49 (0.77, 8.09)  | 0.128            |
| Tobacco <0.5 pack/day <sup>a</sup> | Reference                   |                  | Reference          |                  | Reference                    |                  | Reference          |                  | Reference           |                  | Reference          |                  |
| Tobacco ≥0.5 pack/day <sup>a</sup> | 1.75 (0.91, 3.36)           | 0.094            | 1.61 (0.83, 3.10)  | 0.157            | 1.8 (0.94, 3.45)             | 0.078            | 1.6 (0.83, 3.08)   | 0.159            | 1.83 (0.96, 3.52)   | 0.068            | 1.81 (0.95, 3.48)  | 0.073            |

Poisson regression models: *p* values calculated using Wald's test, bold indicates *p* <0.05.

All HIV-positive subjects are included (n=2725).

CI, confidence interval; HAART, highly active anti-retroviral therapy; HBV, hepatitis B virus; IRR, incidence rate ratio.

<sup>a</sup> Average within 10 years prior to endpoint.