**Supplement 2. The Risk of Secondary Female Cancers among Colorectal Cancer Survivors**

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| **Cancer type** | **Group** | **Number (%)** | **Duration\*** | **IR\*\*** | **Adjusted HR (95% CI)\*\*\*** | **p-value** | **Age<55** | **p-value** |  | **Age≥55** | **p-value** |
| **Overall** | **Control (n = 71,933)** | 372 (0.52) | 320595.24 | 1.16 | 1 (reference) | <0.001 | 1 (reference) | <0.001 |  | 1 (reference) | <0.001 |
| **Colorectal ca. (n = 14,190)** | 210 (1.48) | 62667.78 | 3.35 | 2.88 (2.43 to 3.41) | 3.48 (2.65 to 4.57) |  | 2.57 (2.07 to 3.19) |
| **Breast** | **Control (n = 71,933)** | 228 (0.32) | 320824.24 | 0.71 | 1 (reference) | <0.001 | 1 (reference) | 0.001 |  | 1 (reference) | <0.001 |
| **Colorectal ca. (n = 14,190)** | 90 (0.63) | 62949.05 | 1.43 | 1.98 (1.55 to 2.53) | 1.93 (1.30 to 2.90) |  | 2.01 (1.48 to 2.74) |
| **Ovarian** | **Control (n = 71,933)** | 56 (0.08) | 321124.11 | 0.17 | 1 (reference) | <0.001 | 1 (reference) | <0.001 |  | 1 (reference) | <0.001 |
| **Colorectal ca. (n = 14,190)** | 78 (0.55) | 62939.09 | 1.24 | 7.14 (5.05 to 10.05) | 10.69 (6.26 to 18.26) |  | 5.16 (3.26 to 8.18) |
| **Cervix uteri** | **Control (n = 71,933)** | 67 (0.09) | 321108.25 | 0.21 | 1 (reference) | 0.001 | 1 (reference) | 0.207 |  | 1 (reference) | 0.001 |
| **Colorectal ca. (n = 14,190)** | 29 (0.2) | 63059.75 | 0.46 | 2.24 (1.45 to 3.47) | 1.82 (0.72 to 4.62) |  | 2.39 (1.46 to 3.92) |
| **Corpus uteri** | **Control (n = 71,933)** | 42 (0.06) | 321132.5 | 0.13 | 1 (reference) | <0.001 | 1 (reference) | <0.001 |  | 1 (reference) | 0.17 |
| **Colorectal ca. (n = 14,190)** | 28 (0.2) | 63057.92 | 0.44 | 3.41 (2.11 to 5.51) | 5.51 (2.33 to 13.01) |  | 2.74 (1.52 to 4.95) |

Abbreviations: IR, Incidence rate; HR, Hazard ratio; 95% CI, 95% Confidence interval

The subjects of this analysis are those who have health checkup data before and after diagnosis of colorectal cancer. **\***The unit of duration is person-year. **\*\***Incidence rate refers to the number of female cancer patients per 1,000 people. **\*\*\***Hazard ratio was adjusted for age, sex, body mass index, smoking, alcohol drinking, exercise, income, diabetes mellitus, hypertension and dyslipidemia.