Supplementary Table 1. Univariate regression analyses of basic characteristics and risk of death among colorectal cancer patients with diabetes mellitus

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Person Years | No. of event | HR | 95% CI |
| PDC |  |  |  |  |
| <80 | 122,846.0 | 8,076 | Ref. |  |
| ≥80 | 35,543.1 | 1,958 | 0.84 | 0.80 - 0.88 |
| Sex |  |  |  |  |
| Men | 99,307.6 | 6,417 | Ref. |  |
| Women | 59,081.5 | 3,617 | 0.95 | 0.91 - 0.99 |
| Age (years) |  |  | 1.05 | 1.04 – 1.05 |
| Received cancer treatment, (%) |  |  |  |  |
| Operation only | 103,838.1 | 4,460 | 0.21 | 0.20 – 0.22 |
| Operation with radiotherapy | 18,146.8 | 1,038 | 0.28 | 0.26 – 0.30 |
| Operation with chemotherapy | 22,043.1 | 2,075 | 0.47 | 0.44 – 0.50 |
| Operation with both Radiotherapy and chemotherapy | 6,309.5 | 871 | 0.68 | 0.63 – 0.74 |
| Radiotherapy or Chemotherapy without Operation | 8,051.7 | 1,030 | Ref. |  |
| Metformin usage |  |  |  |  |
| Never | 7,885.1 | 939 | Ref. |  |
| Ever | 150,504.0 | 9,095 | 0.51 | 0.47 – 0.54 |
| Insulin usage |  |  |  |  |
| Never | 134,368.5 | 8,460 | 0.96 | 0.91 – 1.01 |
| Ever | 24,020.7 | 1,574 | Ref. |  |
| Aspirin |  |  |  |  |
| Never | 50,301.6 | 3,755 | Ref. |  |
| Ever | 108,087.5 | 6,279 | 0.78 | 0.75 – 0.81 |

\*abbreviations: PDC=proportion of days covered

Supplementary Table 2. Multivariate regression analyses of medication adherence calculated with prescriptions before colorectal cancer diagnosis and risk of death among colorectal cancer patients with diabetes mellitus

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | No. of  patients | Person Years | No. of event | Crude | |  | Model 1† | |  | Model 2‡ | |
|  | HR 95% CI | |  | HR 95% CI | |  | HR 95% CI | |
| PDC (%) < 80 | 22,027 | 100,350.3 | 6,594 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 10,627 | 51,072.2 | 3,107 | 0.93 | 0.89 – 0.97 |  | 0.90 | 0.86 – 0.94 |  | 0.90 | 0.86 – 0.94 |
| Proximal colon cancer |  |  |  |  |  |  |  |  |  |  |  |
| PDC (%) < 80 | 4,147 | 17,620.4 | 1,194 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 2,013 | 8,899.7 | 563 | 0.94 | 0.85 – 1.04 |  | 0.90 | 0.81 – 1.00 |  | 0.89 | 0.81 – 0.98 |
| Distal colon cancer |  |  |  |  |  |  |  |  |  |  |  |
| PDC (%) < 80 | 5,113 | 23,088.1 | 1,385 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 2,507 | 11,705.4 | 669 | 0.95 | 0.87 – 1.05 |  | 0.95 | 0.86 – 1.04 |  | 0.94 | 0.86 – 1.04 |
| Rectal cancer |  |  |  |  |  |  |  |  |  |  |  |
| PDC (%) < 80 | 8,647 | 39,987.2 | 2,773 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 3,964 | 19,796.7 | 1,240 | 0.90 | 0.85 – 0.97 |  | 0.88 | 0.82 – 0.94 |  | 0.88 | 0.82 – 0.94 |

\*abbreviations: PDC=proportion of days covered

†Model 1 is adjusted for age at colorectal cancer diagnosis, sex and received cancer treatment.

‡Model 2 is further adjusted for metformin usage and aspirin usage.

Supplementary Table 3. Multivariate regression analyses of medication adherence calculated with prescriptions after colorectal cancer diagnosis and risk of death among colorectal cancer patients with diabetes mellitus

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | No. of  patients | Person Years | No. of event | Crude | |  | Model 1† | |  | Model 2‡ | |
|  | HR 95% CI | |  | HR 95% CI | |  | HR 95% CI | |
| PDC (%) < 80 | 20,044 | 98,755.4 | 6,439 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 13,797 | 59,633.7 | 3,595 | 0.93 | 0.89 – 0.96 |  | 0.91 | 0.88 – 0.95 |  | 0.93 | 0.89 – 0.97 |
| Proximal colon cancer |  |  |  |  |  |  |  |  |  |  |  |
| PDC (%) < 80 | 3,578 | 16,459.8 | 1,074 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 2,790 | 11,275.4 | 738 | 1.00 | 0.91 – 1.09 |  | 0.94 | 0.85 – 1.03 |  | 0.95 | 0.86 – 1.04 |
| Distal colon cancer |  |  |  |  |  |  |  |  |  |  |  |
| PDC (%) < 80 | 4,588 | 22,031.1 | 1,389 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 3,282 | 14,143.0 | 730 | 0.82 | 0.75 – 0.90 |  | 0.82 | 0.75 – 0.90 |  | 0.83 | 0.76 – 0.91 |
| Rectal cancer |  |  |  |  |  |  |  |  |  |  |  |
| PDC (%) < 80 | 8,185 | 41,117.0 | 2,779 | 1.00 |  |  | 1.00 |  |  | 1.00 |  |
| PDC (%) ≥ 80 | 4,915 | 21,608.9 | 1,377 | 0.95 | 0.89 – 1.01 |  | 0.94 | 0.88 – 1.00 |  | 0.96 | 0.90 – 1.02 |

\*abbreviations: PDC=proportion of days covered

†Model 1 is adjusted for age at colorectal cancer diagnosis, sex and received cancer treatment.

‡Model 2 is further adjusted for metformin usage and aspirin usage.