Supplementary figures 1-3 and table 1 present the results for the sensitivity analysis in which patients who deceased within 30 days of surgery were excluded (n=41 excluded).

Figure 1: Results for Skeletal Muscle Index

Figure 2: Results for VAT

Figure 3: Results for SAT

Table 1: Estimated HRs for the results presented in figure 1, 2 and 3

Baseline characteristics for the three studies included in this manuscript are presented in table 2

 Table 2: Baseline characteristics of the three individual cohorts

|  |
| --- |
| **Men** |
|  |
| **a.** Test for overall association p=0.10. Test for non-linearity p=0.06. |
| **Women** |
|  |
| **b.** Test for overall association p=0.20. Test for non-linearity p=0.76. |

**Supplementary Figure 1:** Results for the sensitivity analysis in which patients who deceased within 30 days of surgery were excluded (n=41 excluded). The association between skeletal muscle index and mortality among men (a) and women (b), adjusted for adjusted for age and stage of disease, radiotherapy, chemotherapy and skeletal muscle density with three knots located at the 5th, 50th (reference), and 95th percentiles of the distribution of skeletal muscle index.

|  |
| --- |
| **Men** |
|  |
| **a.** Test for overall association p=0.18. Test for non-linearity p=0.07. |
| **Women** |
|  |
| **b.** Test for overall association p=0.92. Test for non-linearity p=0.75. |

**Supplementary Figure 2:** Results for the sensitivity analysis in which patients who deceased within 30 days of surgery were excluded (n=41 excluded).The association between visceral adipose tissue and mortality in men (a) and women (b), adjusted for age and stage of disease, radiotherapy, chemotherapy, skeletal muscle density and skeletal muscle index with three knots located at the 5th, 50th (reference), and 95th percentiles of the distribution of visceral adipose tissue.

|  |
| --- |
| **Men** |
|  |
| **a.** Test for overall association p<0.01. Test for non-linearity p<0.01 |
| **Women** |
|  |
| **b.** Test for overall association p=0.04. Test for non-linearity p=0.02. |

**Supplementary Figure 3:** Results for the sensitivity analysis in which patients who deceased within 30 days of surgery were excluded (n=41 excluded).The association between subcutaneous adipose tissue and mortality in men (a) and women (b), adjusted for age and stage of disease, radiotherapy, chemotherapy, skeletal muscle density and skeletal muscle index with three knots located at the 5th, 50th (reference), and 95th percentiles of the distribution of subcutaneous adipose tissue.

**Supplementary Table 1:** Results for the sensitivity analysis in which patients who deceased within 30 days of surgery were excluded (n=41 excluded).Estimated Hazard Ratios for specific skeletal muscle index, visceral adipose tissue and subcutaneous adipose tissue values and mortality with median values as the reference category (i.e. for skeletal muscle index: men 51.4 cm2/m2, women 40.5 cm2/m2; for visceral adipose tissue: men 186.5 cm2, women 92.9 cm2; for subcutaneous adipose tissue: men 136.2 cm2, women 189.8 cm2).

|  |  |
| --- | --- |
| Men | Women |
|  | HR | 95% CI |  | HR | 95% CI |
| SMI (cm2/m2)\* |  |  | SMI (cm2/m2)\* |  |  |
| 40 | 1.36 | 1.02-1.81 | 30 | 0.93 | 0.60-1.44 |
| 45 | 1.14 | 1.00-1.30 | 35 | 0.94 | 0.78-1.13 |
| 50 | 1.01 | 0.99-1.03 | 40 | 1.00 | 0.99-1.00 |
| 55 | 1.00 | 0.92-1.08 | 45 | 1.15 | 0.98-1.36 |
| 60 | 1.07 | 0.85-1.35 | 50 | 1.42 | 0.93-2.16 |
| VAT (cm2) \*\* |  |  | VAT (cm2)\*\* |  |  |
| 100 | 1.15 | 0.96-1.38 | 50 | 1.02 | 0.82-1.27 |
| 150 | 1.04 | 0.98-1.11 | 100 | 1.00 | 0.97-1.03 |
| 200 | 0.99 | 0.98-1.01 | 150 | 1.01 | 0.87-1.18 |
| 250 | 1.01 | 0.93-1.10 | 200 | 1.05 | 0.78-1.40 |
| 300 | 1.08 | 0.91-1.28 | 250 | 1.15 | 0.672-1.80 |
| SAT (cm2) \*\* |  |  | SAT (cm2) \*\* |  |  |
| 50 | 2.04 | 1.43-2.93 | 100 | 1.44 | 1.08-1.92 |
| 100 | 1.29 | 1.14-1.46 | 150 | 1.14 | 1.02-1.27 |
| 150 | 0.94 | 0.91-0.97 | 200 | 0.98 | 0.96-1.00 |
| 200 | 0.86 | 0.76-0.99 | 250 | 0.92 | 0.83-1.03 |
| 250 | 0.92 | 0.70-1.21 | 300 | 0.95 | 0.78-1.15 |

\*=adjusted for age and stage of disease, radiotherapy, chemotherapy and skeletal muscle density; \*\*= adjusted for age and stage of disease, radiotherapy, chemotherapy, skeletal muscle density and SMI. HR, hazard ratio; 95% CI, 95% confidence interval; SMI, skeletal muscle index; VAT, visceral adipose tissue SAT, subcutaneous adipose tissue.

**Supplementary Table 2:** Baseline characteristics of stage I-III CRC patients stratified into the three contributing studies.

|  |  |  |  |
| --- | --- | --- | --- |
|  | COLON Study | EnCoRe Study | Registry-Based |
|  |  (n=703) | (n=154) | (n=1141) |
| **Demographic characteristics** |  |  |  |
| Age [yrs, mean (SD)] | 65.9 (9.0) | 65.4 (10.1) | 69.5 (11.2) |
| Men [n (%)] | 431 (61) | 103 (67)  | 632 (55) |
| Follow-up time [months, median (IQR range)] | 37 (26, 54) | 28 (21, 39) | 75 (41, 91) |
| **Clinical characteristics**Cancer stage [n (%)] |  |  |  |
| I | 209 (30) | 38 (25) | 231 (20) |
| II | 204 (29) | 44 (29) | 443 (39) |
| III | 290 (41) | 72 (47) | 467 (41) |
| Tumor location[n (%)] |  |  |  |
| Colon | 483 (69) | 92 (60) | 154 (66) |
| Rectal | 218 (31) | 62 (40) | 368 (34) |
| **Body composition** |  |  |  |
| BMI [kg/m2, n (%)] |  |  |  |
| <20 | 24 (3) | 3 (2) | 40 (5) |
| 20-24.9 | 253 (36) | 38 (25) | 338 (39) |
| 25-29.9 | 308 (44) | 66 (43) | 354 (41) |
| ≥30 | 118 (17) | 46 (30) | 131 (15) |

Abbreviations: BMI, body mass index; SD, standard deviation.