Supplementary material: Univariate regression analysis of rectal cancer variables in patients (n=330) receiving surgery alone or short course radiotherapy (SCRT)

2.1 Local recurrence

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|  |  | **HR (95% CI)** | **p** |
| Demographic | Age | 0.992(0.960-1.020)  | 0.620 |
|  | Gender (male) | 1.415(0.627-3.194) | 0.400 |
|  | SIMD quintiles vs. most deprived |  | 0.578 |
|  | 2 | 2.105(0.243-18.245) | 0.5 |
|  | 3 | 2.175(0.240-19.713) | 0.49 |
|  | 4 | 3.864(0.493-30.310) | 0.2 |
|  | 5 | 2.243(0.277-18.136) | 0.45 |
| Treatment | SCRT vs. Surgery alone | **0.297(0.090-0.987)** | **0.047** |
|  | Adjuvant chemotherapy | 1.260(0.588-2.697) | 0.55 |
|  | APER vs. other operation | 0.523(0.126-2.164) | 0.37 |
|  | Upper third vs. mid/lower | 0.486(0.233-1.014) | 0.055 |
|  | Incomplete mesorectal fascia  | 1.383(0.552-3.468) | 0.49 |
| Pathological | Positive CRM | 2.385(0.808-7.044) | 0.12 |
|  | Poor differentiation  |  |  |
|  | Nodal status (vs. N0) | 0.937(0.364-2.412) | 0.89 |
|  | N1 | **2.436(1.038-5.713)** | **0.041** |
|  | N2 | 1.445(0.699-2.987) | 0.32 |
|  | N+ vs. N- | **4.275(1.893-9.651)** | **0.00047** |
|  | Lymphovascular invasion | **3.173(1.534-6.564)** | **0.0018** |
|  | T3/4 vs. T0-2 | **7.372(1.737-31.280)** | **0.0067** |

2.2 Distant metastasis

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| --- | --- | --- | --- |
|  |  | **HR (95% CI)** | **p** |
| Demographic | Age | **0.978(0.957-1.000)** | **0.05** |
|  | Gender (male) | 1.670(0.906-3.076) | 0.1 |
|  | SIMD quintile vs. most deprived |  |  |
|  | 2 | 1.328(0.430-4.102) | 0.62 |
|  | 3 | 1.658(0.542-5.073) | 0.38 |
|  | 4 | 1.246(0.421-3.681) | 0.69 |
|  | 5 | 0.889(0.293-2.704) | 0.84 |
| Treatment | SCRT vs. Surgery alone | **2.064(1.213-3.511)** | **0.0076** |
|  | Adjuvant chemotherapy | **1.868(1.106-3.153)** | **0.019** |
|  | APER vs. other operation | **1.998(1.037-3.847)** | **0.039** |
|  | Upper third vs. mid/lower | 0.917(0.522-1.608) | 0.76 |
|  | Incomplete mesorectal fascia | 0.750(0.353-1.594) | 0.45 |
| Pathology | Positive CRM | **4.239(2.143-8.383)** | **<0.0001** |
|  | Nodal status (vs. N0) |  |  |
|  | N1 | **2.479(1.342-4.577)** | **0.0037** |
|  | N2 | **4.201(2.174-8.117)** | **<0.0001** |
|  | N+ vs. N- | **3.030(1.763-5.208)** | **<0.0001** |
|  | Poor differentiation | **3.184(1.675-6.052)** | **0.00041** |
|  | Lymph node ratio | **11.226(4.908-25.679)** | **<0.0001** |
|  | Lymphovascular invasion | **3.162(1.879-5.319)** | **<0.0001** |
|  | T3/4 vs. T0-2 | **3.440(1.644-7.196)** | **0.001** |

2.3 Disease-free survival

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| --- | --- | --- | --- |
|  |  | **HR (95% CI)** | **p** |
| Demographic | Age | 0.982(0.962-1.003) | 0.092 |
|  | Gender (male) | 1.246(0.868-1.791) | 0.23 |
|  | SIMD quintile vs. most deprived |  |  |
|  | 2 | 1.526(0.510-4.567) | 0.45 |
|  | 3 | 2.066(0.693-6.154) | 0.19 |
|  | 4 | 1.709(0.601-4.859) | 0.31 |
|  | 5 | 1.120(0.381-3.291) | 0.84 |
| Treatment | SCRT vs. Surgery alone | **1.414(1.069-1.870)** | **0.015** |
|  | Adjuvant chemotherapy | **1.729(1.068-2.799)** | **0.026** |
|  | APER vs. other operation | 1.670(0.905-3.080) | 0.1 |
|  | Upper third vs. mid/lower | 0.827(0.494-1.387) | 0.47 |
|  | Incomplete mesorectal fascia | 0.905(0.472-1.736) | 0.76 |
| Pathology | Positive CRM | **4.635(2.499-8.597)** | **<0.0001** |
|  | Nodal status vs. N0 |  |  |
|  | N1 | **1.781(1.007-3.153)** | **0.047** |
|  | N2 | **3.978(2.247-7.045)** | **<0.0001** |
|  | N+ vs N- | **2.459(1.523-3.971)** | **0.00023** |
|  | Poor differentiation | **4.056(2.333-7.051)** | **<0.0001** |
|  | Lymph node ratio | **15.088(6.362-35.785)** | **<0.0001** |
|  | Lymphovascular invasion | **3.092(1.926-4.965)** | **<0.0001** |
|  | T3/4 vs. T0-2 | **3.920(1.953-7.869)** | **0.00012** |

2.4 Overall survival

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| --- | --- | --- | --- |
|  |  | **HR (95% CI)** | **p** |
| Demographic | Age | 1.036 (1.015-1.057) | **0.001** |
|  | Gender (male) | 1.131 (0.737-1.735) | 0.573 |
|  | SIMD quintile vs. most deprived |  |  |
|  | 2 | 1.361 (0.581-3.187) | 0.478 |
|  | 3 | 1.876 (0.805-4.374) | 0.145 |
|  | 4 | 0.956 (0.408-2.238) | 0.917 |
|  | 5 | 0.760 (0.324-1.780) | 0.527 |
| Treatment | SCRT vs. Surgery alone | 0.931 (0.587-1.479) | 0.763 |
|  | Adjuvant chemotherapy | 0.693 (0.399-1.202) | 0.192 |
|  | APER vs. other operation | 1.563 (0.884-2.765) | 0.125 |
|  | Upper third vs. mid/lower | 0.927 (0.594-1.448) | 0.740 |
|  | Incomplete mesorectal fascia | 1.255 (0.757-2.079) | 0.378 |
| Pathology | Positive CRM | 3.361 (1.899-5.948) | **<0.0001** |
|  | Poor differentiation | 3.615 (2.178-5.999) | **<0.0001** |
|  | Nodal status vs. N0 |  |  |
|  | N1 | 1.184 (0.727-1.930) | 0.497 |
|  | N2 | 2.488 (1.515-4.085) | **<0.0001** |
|  | N+ vs N- | 1.592 (1.067-2.376) | **0.023** |
|  | Lymph node ratio | 10.593 (4.716-23.794) | **<0.0001** |
|  | Lymphovascular invasion | 2.271 (1.515-3.404) | **<0.0001** |
|  | T3/4 vs. T0-2 | 2.169 (1.337-3.520) | **0.002** |

SIMD, Scottish Index of Multiple Deprivation