**Supplementary table 1.** Detection of adenoma and polyp according to the intention-to-treat analysis and the per-protocol analysis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Intervention Group | Control Group | P value | RR(95%CI) | RD(95%CI) | NNT(95%CI) |
| **Proximal colon ADR** |  |  |  |  |  |  |
| ITT | 150/420(35.7%) | 106/420(25.2%) | 0.001 | 1.415(1.149 -e1.744) | 10.5%(4.1%-16.8%) | 9.5(6.0-24.4) |
| 95%CI | 31.1%-40.3% | 21.1%-29.4% | - | - | - | - |
| PP | 150/415(36.1%) | 106/416(25.5%) | 0.001 | 1.419(1.152 -1.747) | 10.6%(4.2%-17.0%) | 9.5(5.9-23.8) |
| 95%CI | 31.5%-40.8% | 21.3%-29.7% | - | - | - | - |
| **Whole colon ADR** |  |  |  |  |  |  |
| ITT | 185/420(44.0%) | 143/420(34.0%) | 0.003 | 1.294(1.090-1.535) | 10.0%(3.2%-16.6%) | 10(6.0-31.3) |
| 95%CI | 39.3%-48.8% | 29.5%-38.6% | - | - | - | - |
| PP | 185/415(44.6%) | 143/416(34.4%) | 0.003 | 1.297(1.093-1.538) | 10.2%(3.4%-16.9%) | 9.8(4.2-29.4) |
| 95%CI | 39.8%-49.4% | 29.8%-39.0% | - | - | - | - |
| **Proximal colon PDR** |  |  |  |  |  |  |
| ITT | 231/420 (55.0%) | 173/420 (41.2%) | < 0.001 | 1.335(1.157-1.541) | 13.8%(6.9%-20.6%) | 7.2(4.9-14.5) |
| 95%CI | 50.2%-59.8% | 36.5%-45.9% | - | - | - | - |
| PP | 230/415(55.4%) | 173/416(41.6%) | < 0.001 | 1.333(1.155-1.537) | 13.8%(6.9%-20.6%) | 7.2(4.9-14.5) |
| 95%CI | 50.6%-60.2% | 36.8%-46.3% |  |  |  |  |
| **Whole colon PDR** |  |  |  |  |  |  |
| ITT | 284/420(67.6%) | 253/420(60.2%) | 0.026 | 1.123(1.014-1.243) | 7.4%(0.7%-14.0%) | 13.5(7.1-142.9) |
| 95%CI | 63.1%-72.1% | 55.5%-64.9% | - | - | - | - |
| PP | 279/415(67.2%) | 249/416(59.9%) | 0.027 | 1.123(1.013-1.246) | 7.4%(0.7%-14.0%) | 13.5(7.1-142.9) |
| 95%CI | 62.7%-71.8% | 55.1%-64.6% | - | - | - | - |

ADR: adenoma detection rate, PDR: polyp detection rate, RR: relative risk, RD: rate difference, NNT: number needed to treat, CI: confidence interval, ITT: intention-to-treat analysis, PP: per-protocol analysis,

**Supplementary table 2.** The adenoma detection rate of endoscopists

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Endoscopists experience(years) | Endoscopists experience(cases) | Base-ADR\* | Intervention Group | Control Group | P value | RR (95%CI) |
| E1 | 20 | >5000 | 33.2% | 148/338(43.8%) | 121/335(36.1%) | 0.042 | 1.212(1.006-1.461) |
| E2 | 8  | 1000-2000 | 23.1% | 18/43(41.9%) | 12/48(25.0%) | 0.088 | 1.674(0.916-3.062) |
| E3 | 8 | 1000-2000 | 24.6% | 19/39(48.7%) | 10/37(27.0%) | 0.052 | 1.803(0.970-3.350) |

\*Base-ADR: The adenoma detection rate of endoscopists based on one the year of 2020.

RR: relative risk, CI: confidence interval