***Supplementary Material***

**Supplementary Table: Anesthesiologic and tumor-specific characteristics of the study cohort**

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| **Variable** | **Analysis set (n=1084)** | **entity-controlled low-FiO2 (n=543)** | **entity-controlled high-FiO2 (n=541)** | ***p* value** |

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| Epidural anesthesia CRC  PC  HC  | n=40560 (15)n=652488 (75)n=2720 (74) | n=20321 (10)n=326230 (71)n=1410 (71) | n=20239 (19)n=326258 (79)n=1310 (77) | **0.0110.011**0.745 |
| Intraoperative dose of sufentanil (µg) CRC PC HCC | n=40584.30 ± 39.41n=65276.54 ± 47.35n=2770.19 ± 35.48 | n=20388.45 ± 45.04n=32680.86 ± 51.16n=1473.21 ± 42.23  | n=20280.12 ± 32.37n=32672.22 ± 42.85n=1366.92 ± 27.80 | **0.0120.002**1.000 |
| Intraoperative transfusion of RBC (TU) CRC PC HCC | n=4050.14 ± 0.62n=6520.29 ± 1.15n=270.41 ± 1.37 | n=2030.16 ± 0.67n=3260.21 ± 0.83n=140.00 ± 0.00 | n=2020.13 ± 0.56n=3260.38 ± 1.39n=130.85 ± 1.91 | 0.8390.4270.325 |
| Intraoperative transfusion of FFP (TU) CRC PC HCC | n=4050.06 ± 0.47n=6520.27 ± 1.09n=270.26 ± 0.94 | n=2030.10 ± 0.60n=3260.27 ± 1.12n=140.00 ± 0.00 | n=2020.02 ± 0.28n=3260.26 ± 1.06n=130.54 ± 1.33 | 0.0580.7730.519 |
| Intraoperative transfusion of PLT (TU) CRC PC HCC | n=4050.00 ± 0.00n=6520.02 ± 0.17n=270.00 ± 0.00 | n=2030.00 ± 0.00n=3260.02 ± 0.17n=140.00 ± 0.00 | n=2020.00 ± 0.00n=3260.02 ± 0.17n=130.00 ± 0.00 | 1.0001.0001.000 |

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| Total transfusion of RBC during entire hospital stay (TU) CRC 0  1-5 6-1011-15 > 15 PC 0 1-5 6-10 11-15 > 15 HC 0 1-5 11-15 > 15 | n=405334 (83)56 (14)6 (2)6 (2)3 (1)n=652463 (71)148 (23)26 (4)7 (1)8 (1)n=2716 (60)9 (33)1 (4)1 (4) | n=203164 (81)32 (16)5 (3)2 (1)0 (0)n=326238 (73)71 (22)10 (3)3 (1)4 (19n=1410 (72)4 (29)0 (0)0 (0) | n=202170 (84)24 (12)1 (1)4 (2)3 (2)n=326225 (69)77 (24)16 (5)4 (1)4 (1)n=136 (46)5 (39)1 (8)1 (8) | 0.1080.7110.380 |
| Total transfusion of PLT during entire hospital stay (TU) CRC  PC  HC | n=4050.03 ± 0.43n=6520.04 ± 0.35n=270.04 ± 0.19 | n=2030.00 ± 0.07n=3260.04 ± 0.38n=140.00 ± 0.00 | n=2020.06 ± 0.61n=3260.05 ± 0.31n=130.08 ± 0.28 | 0.1740.7850.756 |
| Total transfusion of FFP during entire hospital stay (TU) CRC 0 1-5 >5 PC 0 1-5 >5 HC 0 1-5 >5 | n=405394 (97)9 (2)2 (1)n=652586 (90)48 (7)18 (3)n=2720 (74)5 (19)2 (7) | n=203195 (96)7 (3)1 (1)n=326294 (90)25 (8)7 (2)n=1411 (79)3 (21)0 (0) | n=202199 (99)2 (1)1 (1)n=326292 (90)23 (7)11 (3)n=139 (69)2 (15)2 (15) | 0.2450.6130.306 |
| CRCOpen surgery, n (%) | n=405a362 (89) | n=145123 (85) | n=260239 (92) | **0.026** |
| UICC stage, n (%) CRC UICC 0-2 UICC 3-4 PC UICC 0-2 UICC 3-4 HC UICC 0-2 UICC 3-4 | n=404b236 (58)168 (42)n=652650 (99.7)2 (0.3)n=6b3 (50)3 (50) | n=14584 (58)61 (42)n=391390 (99.7)1 (0.3) | n=259b152 (59)107 (41)n=261260 (99.6)1 (0.4)n=63 (50)3 (50) | 0.8821.000 |
| Grading, n (%) CRC G1-2 G3-4 No grading possible after  neoadjuvant therapy PC G1-2 G3-4 No grading possible after  neoadjuvant therapy HC G1-2 G3-4 No grading possible after  neoadjuvant therapy  | n=405267 (66)45 (11)93 (23)n=650389 (60)202 (31)59 (9)n=2619 (73)7 (27)0 (0) | n=14592 (63)16 (11)37 (26)n=389225 (58)127 (33)37 (10)n=55 (100)0 (0)0 (0) | n=26017 (67)29 (11)56 (22)n=261164 (63)75 (29)22 (8)n=2114 (67)7 (33)0 (0) | 0.6530.4440.278 |
| Resection margin status R1, n (%) CRC PC HC | n=4056 (2)n=652477 (73)n=270 (0) | n=1452 (1)n=391294 (75)n=60 (0) | n=2604 (2)n=261183 (70)n=210 (0) | 0.8990.152 |
| Tumor localization, n (%)c CRC: Rectum PC: pancreatic head  | n=405264 (65)n=652504 (77) | n=14597 (67)n=391316 (81) | n=260167 (64)n=261188 (72) | 0.589**0.009** |
| Neoadjuvant chemotherapy, n (%) CRC PC HC | n=40582 (20)n=65279 (12)n=271 (4) | n=14534 (23)n=39152 (13)n=60 (0) | n=26048 (19)n=26127 (10)n=211 (5) | 0.2310.2570.586 |
| Neoadjuvant radiotherapy, n (%) CRC PC HC | n=405111 (27)n=65245 (7)n=270 (0) | n=14541 (28)n=39124 (6)n=60 (0) | n=26070 (27)n=26121 (8)n=210 (0) | 0.7700.346 |
| IORT, n (%) CRC PC HC | n=4053 (1)n=65129 (4)n=270 (0) | n=1451 (1)n=39113 (3)n=60 (0) | n=2602 (1)n=26116 (6)n=270 (0) | 1.0000.089 |
| Adjuvant therapy, n (%) CRC PC HC | n=328145 (44)n=553488 (88)n=271 (4) | n=11959 (50)n=335302 (90)n=60 (0) | n=20986 (41)n=218186 (85)n=211 (5) | 0.1390.0851.000 |

Data are presented as mean ± SD, or as absolute number (percentage). P-values refer to comparison between low-FiO2 vs. high-FiO2 patients. Continuous data were compared using Mann-Whitney U test. Categorial variables were compared using chi-square test. Boldface indicates p-values<0.05. a Only for colorectal cancer patients open versus laparoscopic surgery was differentiated; b UICC staging only possible for patients with known N status of the TNM classification; c Only for colorectal cancer patients (rectum versus colon) and pancreatic cancer patients (head versus other), tumor localization was determined.

FiO2: Fraction of inspired oxygen; SD: Standard deviation; UICC: Tumor classification according to the Union for International Cancer Control; CRC: Colorectal cancer; PC: Pancreatic cancer; HC: Hepatic cancer; IORT: Intraoperative radiation therapy; RBC: Red blood cells, FFP: Fresh frozen plasma, PLT: Platelet concentrates, TU: Transfusion units