**Supplement**

**Supplement 1:** Questionnaire for a structured Interview to detect postoperative adverse events.

All questions were asked one hour after operation, and again after seven days, in order to detect if any postoperative discomfort or complications occurred in the first hour after surgery and in the seven-day period after discharge from the recovery unit. Questions 1 to 7 could be rated with ‘no’, ‘mild’, ‘moderate’ or ‘severe’ complaints.

1. Did you have sore throat?
2. Did you have dysphonia?
3. Did you have complaints with breathing?
4. Did you have cough?
5. Did you have dysphagia?
6. Did you have postoperative nausea and vomiting?
7. Did you have fever or symptoms of severe illness?

**Supplement 2:** Nine-step-scale for evaluation of preferred cuff pressure (CP) during ventilation sequence. Gastric insufflation (GI). Pressure controlled ventilation (PCV). Continuous positive airway pressure (CPAP).

|  |  |
| --- | --- |
| GI occurred at | Scale No. |
| PCV 15 cm H2O | 1 |
| CPAP 15 cm H2O | 2 |
| PCV 20 cm H2O | 3 |
| CPAP 20 cm H2O | 4 |
| PCV 25 cm H2O | 5 |
| CPAP 25 cm H2O | 6 |
| PCV 30 cm H2O | 7 |
| CPAP 30 cm H2O | 8 |
| complete ventilation sequence without GI | 9 |

**Supplement 3:** Comparison of ventilation modes in different peak airway pressures (PAP). In the table, the results of the real-time sonography during the different ventilation modes and peak inspiratory pressures are shown. P-value is calculated by chi-squared test comparing the two ventilation modes during same PAP. Pressure controlled ventilation (PCV). Continuous positive airway pressure (CPAP).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | PCV | | CPAP | |  |
| PAP | n GI pos. | n GI neg. | n GI pos. | n GI neg. | p-value |
| 15 cm H2O | 4 | 324 | 18 | 306 | 0.002 |
| 20 cm H2O | 20 | 286 | 95 | 191 | <0.0001 |
| 25 cm H2O | 25 | 166 | 58 | 105 | <0.0001 |
| 30 cm H2O | 8 | 90 | 19 | 68 | 0.009 |

**Supplement 4:** Incidence of airway related and gastrointestinal related complaints one hour after end of surgery and within one week after surgery. CP20/CP60 with cuff pressure 20 cm H2O during surgery. CP60/CP20 with cuff pressure 60 cm H2O during surgery. Comparison of differences between the groups with the Mann-Whitney U test.

|  |  |
| --- | --- |
|  | Airway related complaints one hour after surgery |
| group | no/mild/moderate/severe/missed data |
| CP20/CP60 | 66 (79.5%) / 11 (13.3%) / 0 (0%) / 0 (0%) / 6 (7.2%) |
| CP60/CP20 | 73 (90.1%) / 8 (9.9%) / 0 (0%) / 0 (0%) / 0 (0%) |
| Mann-Whitney-U-test | p=0.396 |

|  |  |
| --- | --- |
|  | Airway related complaints within one week after surgery |
| group | no/mild/moderate/severe/missed data |
| CP20/CP60 | 63 (75.9%) / 11 (13.3%) / 1 (1.2%) / 0 (0%) / 8 (9.6%) |
| CP60/CP20 | 64 (79%) / 6 (7.4%) / 3 (3.7%) / 0 (0%) / 8 (9.9%) |
| Mann-Whitney-U-test | p=0.582 |

|  |  |
| --- | --- |
|  | Gastrointestinal related complaints one hour after surgery |
| group | no/mild/moderate/severe/missed data |
| CP20/CP60 | 75 (90.4%) / 1 (1.2%) / 1 (1.2%) / 0 (0%) / 6 (7.2%) |
| CP60/CP20 | 76 (93.8%) / 4 (4.9%) / 0 (0%) / 1 (1.2%) / 0 (0%) |
| Mann-Whitney-U-test | p=0.281 |

|  |  |
| --- | --- |
|  | Gastrointestinal related complaints within one week after surgery |
| group | no/mild/moderate/severe/missed data |
| CP20/CP60 | 68 (81.9%) / 2 (2.4%) / 1 (1.2%) / 4 (4.8%) / 8 (9.6%) |
| CP60/CP20 | 63 (77.8%) / 6 (7.4%) / 3 (3.7%) / 1 (1.2%) / 8 (9.9%) |
| Mann-Whitney-U-test | p=0.475 |