

Table S1. Operative and post-operative details for debulked patients

| Characteristic | Overall (n = 158) | Arm A PDS (n = 84) | Arm B NACT-IDS (n = 74) | P |
|------------------------------|----------------------|--------------------------|-------------------------------|-------------------|
| | N.(%) | N. (%) | N. (%) | |
| Type of Surgery | | | | |
| Diaphragm | 102 (64.6) | 81 (96.4) | 21 (28.4) | <0.0001 |
| IO thoracic drainage | 10 (6.3) | 9 (10.7) | 1 (1.4) | 0.016 |
| Pancreatic tail | 5 (3.3) | 5 (6.3) | 0 (0) | 0.033 |
| Splenectomy | 61 (38.6) | 54 (64.3) | 7 (9.5) | <0.0001 |
| Liver resection | 25 (15.8) | 20 (23.8) | 5 (6.8) | 0.003 |
| Celiac Nodes | 11 (7) | 10 (11.9) | 1 (1.4) | 0.009 |
| Bowel resection | 85 (53.8) | 71 (84.5) | 14 (18.9) | <0.0001 |
| Single | 62 (39.2) | 52 (61.9) | 10 (13.5) | |
| Multiple | 23 (14.6) | 19 (22.6) | 4 (5.4) | |
| Oostomy | 51 (32.3) | 44 (52.4) | 7 (9.5) | <0.0001 |
| Estimated blood loss >750 ml | 76 (48.1) | 42 (50) | 34 (45.9) | 0.611 |
| Mean hospital stay, d (SD) | 11 (9.5) | 14.8 (11.3) | 6.7 (3.9) | <0.0001 |

NOTE: Bold font highlight statistically significant differences.

Abbreviations: PDS, Primary debulking surgery; NACT, neoadjuvant chemotherapy; IDS, interval debulking surgery

Table S2. Details of post-operative major complications.

| Characteristic | Overall | Arm A | Arm B | P |
|---|-----------|-----------------|----------------------|--------------------|
| | (n = 158) | PDS (n = 84) | NACT-IDS (n = 74) | |
| | N.(%) | N. (%) | N. (%) | |
| Early (≤ 30 days) ** | | | | |
| All patients | 46 (29.1) | 39 (46.4) | 7 (9.5) | <0.0001 |
| All events | 269 (100) | 177 (65.8) | 92 (34.2) | |
| Major events | 53 (19.7) | 46 (25.9) | 7 (7.6) | <0.0001* |
| Grade III | 47 (17.5) | 40 (22.6) | 7 (7.6) | 0.002 |
| Pleural effusion | 27 (10.0) | 26 (14.7) | 1 (1.1) | |
| Re-laparotomy | 6 (2.2) | 4 (2.3) | 2 (2.1) | |
| Pancreatic fistula | 3 (1.1) | 3 (1.7) | 1 (1.1) | |
| Intrabdominal collection drainedpa | 3 (1.1) | 2 (1.1) | 0 (0) | |
| Wound dehiscence treated with V.A.C. [®] therapy | 2 (0.7) | 2 (1.1) | 0 (0) | |
| Respiratory failure | 2 (0.7) | 1 (0.6) | 1 (1.1) | |
| Biliary fistula | 1 (0.4) | 1 (0.6) | 0 (0) | |
| Embolization | 1 (0.4) | 1 (0.6) | 0 (0) | |
| Gastric bleeding | 1 (0.4) | 0 (0) | 1 (1.1) | |
| Deiscence of the surgical wound | 1 (0.4) | 0 (0) | 1 (1.1) | |
| Grade IV | 3 (1.1) | 3 (1.7) | 0 (0) | 0.209 |
| Organ failure | 2 (0.7) | 2 (1.1) | 0 (0) | |
| Organ resection | 1 (0.4) | 1 (0.6) | 0 (0) | |
| Grade V | 3 (1.1) | 3 (1.7) | 0 (0) | 0.209 |
| Late (1-6 months) | | | | |
| All patients | 11 (7.0) | 10 (11.9) | 1 (1.4) | 0.009 |
| All events | 35 (100) | 31 (88.6) | 4 (11.4) | |
| Major events | 14 (40.0) | 13 (41.9) | 1 (25.0) | 0.515* |
| Grade III | 7 (20.0) | 6 (19.3) | 1 (25.0) | 0.791 |
| Pleuric effusion | 4 (11.4) | 3 (9.8) | 1 (25.0) | |
| Abdominal collection | 1 (2.9) | 1 (3.3) | 0 (0) | |
| Grade IV | 3 (8.6) | 3 (9.7) | 0 (0) | 0.588 |
| Cognitive impairment | 1 (2.9) | 1 (3.3) | 0 (0) | |
| Multiorgan failure | 1 (2.9) | 1 (3.3) | 0 (0) | |
| Respiratory failure | 1 (2.9) | 1 (3.3) | 0 (0) | |
| Grade V | 4 (11.4) | 4 (12.9) | 0 (0) | 0.455 |

* Major (Grade 3, 4 and 5) vs minor (Grade 1 and 2) complications [Strong VE, Selby LV, Sovel M, Disa JJ, Hoskins W, Dematteo R, Scardino P, Jaques DP. Development and assessment of Memorial Sloan Kettering Cancer Center's Surgical Secondary Events grading system. *Ann Surg Oncol.* 2015 Apr;22(4):1061-7].

**In case of multiple procedure for single complication only last procedure has been considered.

NOTE: Bold font highlights statistically significant differences.

Rates are calculated on All events.

Table S3. Characteristic of patients dead for surgical complications

| ID | Age (years) | ECOG | Body mass Index (kg/m ²) | More than 3 comorbidities | Surgical complexity score | Cause of death | early/late |
|----|-------------|------|--------------------------------------|---------------------------|---------------------------|---------------------|------------|
| 1 | 72 | 0 | 25.0 | Yes | 3 | Heart failure | early |
| 2 | 67 | 1 | 21.8 | Yes | 3 | Respiratory failure | early |
| 3 | 74 | 2 | 21.8 | Yes | 3 | Hemorrhagic shock | early |
| 4 | 40 | 2 | 19.9 | No | 3 | Sepsis | late |
| 5 | 54 | 1 | 18.4 | No | 3 | Respiratory failure | late |
| 6 | 60 | 1 | 19.9 | No | 3 | Multiorgan failure | late |
| 7 | 55 | 1 | 34.6 | No | 3 | Multiorgan failure | late |