**Supplementary material**

Supplementary Table 1. The main perioperative outcome of studies related to MIS during IDS.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Study Design | Location | Number of Patients | OT  (min) | EBL  (mL) | LOS  (d) | RPC | TTC  (d) | ROC | RLC |
| Giacomo Corrado *et al*. [31] 2015 | Retrospective  Mono-centre | Italy | 50 | 152 | 70 | 4.0 | 2/30 | - | - | 2/30 |
| Salvatore Gueli Alletti *et al*. [13] 2015 | Prospective  Multi-centre | Italy | 30 | 284 | 100 | 2.0 | 0 | 20.0 | 29/30 | 0 |
| Giovanni Favero *et al.* [23] 2015 | Retrospective  Mono-centre | Germany | MIS: 10 | 292 | - | 3.6 | 2/10 | - | 10/10 | 0 |
| LAP: 11 | 264 | - | 5.4 | 1/11 | - | 11/11 |  |
| S.Gueli Allettiet *et al*. [24] 2016 | Retrospective  Mono-centre | Italy | MIS: 30 | 285 | 100 | 2.0 | 0 | 20.0 | - | - |
| LAP: 65 | 180 | 200 | 4.0 | 2/65 | 35.0 | - |  |
| Alexander Melamed *et al*. [30] 2017 | Retrospective  Multi-centre | USA | MIS: 450 | - | - | 4.0 | 24/450 | - | 358/450 | 72/450 |
| LAP: 2621 | - | - | 5.0 | 97/2621 | - | 2029/2621 |  |
| Jubilee Brown *et al*. [25] 2018 | Retrospective  Mono-centre | USA | MIS: 53 | 171 | 156 | 3.0 | 22/53 | - | 51/53 | 9/53 |
| LAP: 104 | 150 | 278 | 5.7 | 40/104 | - | 86/104 |  |
| Brittany A. Davidson *et al*. [48] 2018 | Retrospective  Mono-centre | USA | MIS: 51 | - | - | 2.0 | 2/51 | - | 19/25 | 24/51 |
| LAP: 81 | - | - | - | - | - | 21/24 |  |
| A Fagotti *et al*. [31] 2018 | Retrospective  Multi-centre | Italy | 127 | 225 | 100 | 2.0 | 6/127 | 20.0 | 127/127 | 5/127 |
| Koji Matsuo *et al*. [29] 2020 | Retrospective  Multi-centre | USA | MIS: 75 | - | - | 2.0 | 15/75 | - | - | - |
| LAP: 1745 | - | - | 4.0 | 541/1745 | - | - | - |
| Molly Morton *et al*. [26] 2020 | Retrospective  Mono-centre | USA | MIS: 10 | 324 | 100 | 3.0 | - | 26.2 | 7/10 | 0 |
| LAP: 40 | 336 | 225 | 4.0 | - | 32.0 | 31/40 |  |
| Yingao Zhang *et al*. [27] 2021 | Retrospective  Mono-centre | USA | MIS: 43 | - | - | - | - | - | 27/43 | - |
| LAP: 50 | - | - | - | - | - | 26/50 |  |
| Roni Nitecki *et al*. [50] 2021 | Prospective  Multi-centre | International | Planned to enroll 580 patients | | | | | | | |
| Christianne Persenaire *et al*. [49] 2022 | Retrospective  Multi-centre | USA | MIS: 1372 | - | - | 3.0 | - | - | - | - |
| LAP: 6713 | - | - | 5.0 | - | - | - | - |
| Lise Lecointre *et al*. [28] 2022 | Retrospective  Multi-centre | International | MIS: 37 | - | - | 7.6 | 6/37 | - | - | - |
| LAP: 40 | - | - | 12.1 | 17/40 | - | - | - |

Abbreviations: OT= Operation Time, EBL = Estimated Blood Loss, LOS = Length of Stay, RPC = Rate of Perioperative Complication, TTC = Time to Chemotherapy, ROC = Rate of Optimal Cytoreduction, RLC = Rate of Laparotomy-Conversion, MIS = Minimally Invasive Surgery, LAP = Laparotomy Surgery.

Supplementary Table 2. The main prognostic outcome of studies related to MIS during IDS.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Study Design | Location | Number of Patients | PFS  (month) | OS  (month) | RFS  (month) | RR | 3 years survival | 5 years survival |
| Salvatore Gueli Alletti *et al*. [24] 2015 | Prospective  Multi-centre | Italy | 30 | - | - | - | 7/30 | - | - |
| Giovanni Favero *et al*. [23] 2015 | Retrospective  Mono-centre | Germany | MIS: 10 | 13.3 | - | - | 8/10 | - | - |
| LAP: 11 | 20.5 | - | - | 10/11 | - | - |
| S.Gueli Allettiet *et al*. [24] 2016 | Retrospective  Mono-centre | Italy | MIS: 30 | 18.0 | - | - | - | - | - |
| LAP: 65 | 12.0 | - | - | - | - | - |
| Alexander Melamed *et al*. [30] 2017 | Retrospective  Multi-centre | USA | MIS: 450 | - | - | - | - | 214/450 | - |
| LAP: 2621 | - | - | - | - | 1379/2621 | - |
| Jubilee Brown *et al*. [25] 2018 | Retrospective  Mono-centre | USA | MIS: 53 | 27.0 | 37.0 | - | - | - | - |
| LAP: 104 | 29.0 | 35.0 | - | - | - | - |
| A Fagotti *et al*. [31] 2018 | Retrospective  Multi-centre | Italy | 127 | 23.0 | - | - | - | - | 66/127 |
| Molly Morton *et al*. [26] 2020 | Retrospective  Mono-centre | USA | MIS: 10 | - | - | 15.0 | - | - | - |
| LAP: 40 | - | - | 17.2 | - | - | - |
| Yingao Zhang *et al*. [27] 2021 | Retrospective  Mono-centre | USA | MIS: 43 | 16.7 | 35.6 | - | - | - | - |
|  | LAP: 50 | 15.4 | 38.2 | - | - | - |  |
| Yingao Zhang *et al*. [27] 2021 | Retrospective  Mono-centre | USA | MIS: 43 | 16.7 | 35.6 | - | - | - | - |
| LAP: 50 | 15.4 | 38.2 | - | - | - |  |
| Lise Lecointre *et al*. [28] 2022 | Retrospective  Multi-centre | International | MIS: 37 | 14.8 | 23.1 |  |  |  |  |
| LAP: 40 | 12.0 | 26.3 | - | - | - | - |
| Roni Nitecki *et al*. [50] 2021 | Prospective  Multi-centre | International | Planned to enroll 580 patients | | | | | | |

Abbreviations: PFS = Progression-Free Survival, OS = Overall Survival, RFS = Recurrence-Free Survival, RR = Rate of Recurrence, MIS = Minimally Invasive Surgery, LAP = Laparotomy Surgery.

Supplementary Table 3. The main [clinicopathologic feature](javascript:;) of OV patients enrolled into MIS.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | Number of Patients | unsuitable for PDS | FIGO Stage | Cycles of NACT | CR  (n) | PR  (n) | CA125  (U/mL) | Radiology assessment | LAP  assessment |
| Salvatore Gueli Alletti *et al*. [24] 2015 | 30 | Yes | - | - | 6 | 24 | - | - | suitable |
| Giacomo Corrado *et al*. [31] 2015 | 30 | Yes | IIIc–IV | 3 | - | - | - | - | suitable |
| Giovanni Favero *et al.* [23] 2015 | 10 | Yes | IIIc–IVa | 6 | 10 | - | <35 | suitable | - |
| S.Gueli Allettiet *et al*. [24] 2016 | 30 | Yes | III–IV | 4 (3–7) | 27 | 3 | 35.2 (3.2–643) | suitable | suitable |
| Alexander Melamed *et al*. [30] 2017 | 450 | Yes | IIIc–IV | - | - | - | - | - | suitable |
| Jubilee Brown *et al*. [25] 2018 | 53 | Yes | III–IV | >1 | - | - | - | suitable | - |
| Brittany A. Davidson *et al*. [48] 2018 | 25 | Yes | IIIc–IV | - | - | - | - | - | suitable |
| A Fagotti *et al*. [31] 2018 | 127 | Yes | III–IV | 4 (3–8) | 38 | 85 | 32 (2–212) | - | suitable |
| Koji Matsuo *et al.* [29] 2020 | 75 | Yes | IIIc–IV | - | - | - | - | - | - |
| Molly Morton *et al*. [26] 2020 | 10 | Yes | III–IV | 3 (3–5) | 2 | 7 | 18.8 (12.0–28.1) | - | suitable |
| Yingao Zhang *et al*. [27] 2021 | 43 | Yes | III–IV | 3–6 | - | - | - | suitable | - |
| Christianne Persenaire *et al*. [49] 2022 | 1372 | Yes | IIIc–IV | - | - | - | - | - | - |
| Lise Lecointre *et al*. [28] 2022 | 37 | Yes | III–IV | - | - | - | - | suitable | - |

Abbreviations: PDS = primary debulking surgery, FIGO = Federation Internationale of Gynecologie and Obstetrigue, NACT = neoadjuvant chemotherapy, CR = complete response, PR = partial response, CA = carbohydrate antigen, LAP = laparotomy surgery.