

**Table S1.** Review of intraperitoneal chemotherapy in recurrent ovarian cancer.

| No. | Authors, Year | Enrolled patients | Platinum sensitivity | Pathology | Study Design | Drugs | Completion rate | Survival | Port related Complications |
|-----|----------------------------|-------------------|----------------------|----------------|---|--|--|---|--|
| 1 | Skaznik-Wielki et al, 2012 | 56 | Platinum sensitive | Serous (84.9%) | Retrospective, IP paclitaxel 40mg/m2 for 3h on day 1 Single arm | 1) IV paclitaxel 135mg/m2 for 3h on day 1 IP cisplatin 75mg/m2 on day 2 2) IP oxaliplatin and IV docetaxel (17.8%) 3) IP cisplatin 50-75mg/m2 (12.5%) | 75% (43/56) | Median PFS: 10.5 months Median OS: 51 months | 10.7% (6/56) |
| 2 | Milczek et al, 2012 | 74 | N/A | Serous (100%) | Retrospective, Double arm (cisplatin, carboplatin group) Cohort study | 1) Cisplatin group (66.2%, n=49) IP cisplatin 90mg/m2, IV cyclophosphamide on day 1 2) Carboplatin group (33.8%, n=25) IP carboplatin AUC 6, IV cyclophosphamide on day 1 | 100% (patients who completed all four IP cycles were chosen) | 1) Median OS: 52 months 2) Cisplatin group Median OS: 59 months 3) Carboplatin group Median OS: 51 months | 1) Bowel perforation during catheter insertion/removal: 10.8% (8/74) 2) Port obstruction: 8.1% (6/74) |
| 3 | Markman et al, 2009 | 432 | N/A | Serous (67.9%) | Phase II clinical trials conducted by GOG | 1) Cisplatin + 5-FU (GOG 102-B, 9.9%) 2) cisplatin + α -interferon (GOG 102-C, 9.7%) 3) cisplatin + etoposide (GOG 102-E, 19.4%) 4) α -interferon (GOG 102-F, 18.5%) 5) cisplatin + α -2b interferon (GOG 102-N, 12.7%) 6) paclitaxel (GOG 151, 17.5%) | N/A | Median OS: 28.8 months Median PFS: 14.4 months | N/A |
| 4 | Boisen et al, 2016 | 25 | Platinum sensitive | Serous (84%) | Retrospective, Double arm (longer TFI, shorter TFI after frontline therapy) | 1) Cisplatin (n=20%) 2) Cisplatin + paclitaxel (n=80%) | 13.3% (2/15) 30.0% (3/10) | 1) shorter TFI (22 months): 1) shorter TFI :16 months 2) longer TFI : 37 (31 months): | N/A |

(Continued).

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|-----|-------------------|-------------------|---|----------------|--|---|-------------------------------|--|--|-----|
| 5 | Recio et al, 1998 | 63 | N/A | Serous (84%) | Retrospective, Single arm | Cisplatin 200mg/m ² , cytarabine 1.2g/m ² (51%) + bleomycin 2U/m ² (49%) | N/A | Median OS: 29.1 months Median PFS: 9.6 months | port related peritonitis: 5% (3/63) | |
| 6 | Lu et al, 2016 | 450 | Platinum sensitive (328) resistant (122) | Serous (46.6%) | Retrospective, Double-arm (IP, IV group) | 1) GOG 114 protocol (52.2%) IV carboplatin AUC 9 IV paclitaxel 135mg/m ² IP cisplatin 75mg/m ² 2) GOG 172 protocol (45.5%) IV paclitaxel 135mg/m ² for 3h on day 1 IP cisplatin 100mg/m ² on day 2 IP paclitaxel 40mg/m ² for 3h on day 8 | Completion rate: 68% (73/108) | 1) Platinum-sensitive 2) Platinum-resistant Completion rate: 62% (29/47) | Median PFS: 9.8 months, p <0.001 (IV control group : 6.9 months, p <0.001) Median PFS: 4.9 months (IV control group : 2.4 months, p <0.001) | N/A |

Abbreviations: IV, intravenous; IP, intraperitoneal; GOG, gynecologic oncology group; 5-FU, 5-fluorouracil; OS, overall survival; PFS, progression free survival;.

Table S2. Experimental data with several cytotoxic drugs administered intraperitoneally on anastomotic healing.

| No. | Authors, Year | Number of rats | Study Design | Drugs | Anastomotic bursting pressure |
|-----|----------------------|----------------|--------------------|--|--|
| 1 | Kanellos et al, 2008 | 15 | Experimental study | oxaliplatin 2.4 mg/kg control group: IP Nacl solution | N/A, Anastomotic leakage in 26.7% (0% in control group, p = 0.016) |
| 2 | Blouhos, 2010 | 30 | Experimental study | oxaliplatin 2.4mg/kg control group: IP Nacl | 183mmHg (300mmHg in control group <0.001) |
| 3 | Arikan et al, 2000 | 40 | Experimental study | paclitaxel 3mg/kg control group: IP normal saline | 126mmgHg (133mmHg in control group p<0.05) |
| 4 | Sasaya et al,1995 | 25 | Experimental study | cisplatin 3mg/kg control group: IV cisplatin 3mg/kg | 145mmHg (205mmHg in control group p<0.05) |
| 5 | Fumagalli, 1991 | 97 | Experimental study | mitomycin-C 2mg/kg control group: IV mitomycin-C 1.5mg/kg | 156mmHg (178mmgHg in control group p<0.01) |

Abbreviation: IP, intraperitoneal; IV, intravenous.