setting are important variables that should always be reported in biomarker research.

EPV224/#620 RADIOTHERAPY FOR PLATINUM-RESISTANT (PR) OVARIAN CANCER: SHOULD THIS BE RECONSIDERED AS A STANDARD TREATMENT OPTION?

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Objectives Radiotherapy for recurrent ovarian cancer has traditionally had a limited role due to toxicity, but recent advances enable more targeted treatments. The aims were to evaluate patterns of disease in PR ovarian cancer and investigate feasibility of radiotherapy to treat abdomino-pelvic disease.

Methods Gynaecology oncology clinic lists were retrospectively reviewed to identify 50 patients with PR ovarian cancer. Tumour location on imaging at time-point of platinum-resistance was mapped with cumulative incidences by quadrant. Three groups were defined: RT_Feasible - pelvis and lymph nodes; RT_Not Feasible -liver parenchymal metastases, gross ascites, bowel obstruction; RT_Uncertain including peritoneal disease. A dosimetric study was undertaken on ten consecutive RT-Uncertain patients producing IMRT plans delivering 30Gy/10 fractions with pre-defined normal structure dose constraints.

Results From 399 patients attending Nov 2019-Feb 2020, 88 (22%) had PR disease, with 63% confined to abdomen-pelvis. Disease was typically multi-focal with involvement of 2 or more quadrants in 84%, and 88% having upper abdominal disease. Group allocation was RT_Feasible 22%, RT_NotFeasible18% and RT_Uncertain 60%. There was median 5 (range 2–9) separate tumour volumes with total volume median 13.6 cm^3 (range 6.5–400.3 cm^3) resulting in planning target volumes median 458.6 cm^3 (243–3077). IMRT plans encompassed tumour volumes while meeting all normal structure tolerances in 50% cases, with all plans failing for planning volumes $>1000cm^3$.

Conclusions PR ovarian cancer is often widespread, but radiotherapy was feasible for 52% cases with abdomino-pelvic disease. RT could be integrated into novel treatment strategies for these patients who currently have limited options.

EPV225/#623 SAFETY OF A NEW CLOSED CO2 PERITONEAL RECIRCULATION SYSTEM (PRS) HYPERTHERMIC INTRAPERIONEAL CHEMOTHERAPY (HIPEC) AFTER INTERVAL DEBULKING SURGERY (IDS) IN ADVANCED OVARIAN CANCER (AOC) PATIENTS

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Objectives The avaliability of new devices aimed at improving fluid distribution with a CO2 Peritoneal Recirculation System (PRS-1.0 Combat) may be useful to further improve the clinical benefit recently showed by hypertermic intraperitoneal chemotherapy (HIPEC) after interval debulking surgery (IDS) in advanced ovarian cancer (AOC) patients. This study aimed at assessing the feasibility and perioperative outcomes of the CO2 PRS HIPEC after IDS.

Methods Over the study period 24 patients were prospectively enrolled. Patients underwent 3 neoadjuvant cycles of carboplatin AUC5 + paclitaxel 175 mg/m2 and IDS with absent residual disease. Sodium thiosulfate (9 g/m2) was administered before CO2 PRS HIPEC with cisplatin (75 mg/m2, temperature 42°C, for 60 minutes).

Results Almost one third of patients (37,5%) underwent ultraradical surgery with 12.5% bowel resections. Median blood loss was 500 (100–1200) mL and mean operative time 407.5 minutes. Median (range) intensive care unit stay and time-to-discharge were 0 (0–10) and 6 (4–17) days, respectively. We registered 3/24 (12.5%) early serious adverse events including one acute respiratory failure and two acute kidney injuries (only one of these retained a mild chronic renal failure); one patient was readmitted within 30 days after discharge because of a dehiscence of the vaginal vault. No late adverse events were reported. Median time-to-chemotherapy was 33 days (range 22- 51).

Conclusions The CO2 PRS may improve the safety profile of HIPEC in the setting of IDS for AOC patients probably because of the more tailored drug distribution.

EPV226/#634 HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY WITH CO2 RECIRCULATION SYSTEM (PRS) AFTER INTERVAL DEBULKING SURGERY IN ADVANCED OVARIAN CANCER (AOC): PRELIMINARY EFFICACY RESULTS FROM A PHASE II STUDY

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Objectives The addition of HIPEC to IDS in AOC has recently showed advantages in prolonging both disease-free and overall survival in AOC patients responding to neoadjuvant chemotherapy. We investigated the pattern of recurrence in a preliminary series of AOC patients treated by HIPEC with a new CO2 PRS after IDS.

Methods Twenty patients were prospectively enrolled during the study period. All patients underwent 3 cycles of neoadjuvant chemotherapy with carboplatin AUC5 + paclitaxel 175 mg/m2 and achieved complete cytoreduction at the time of IDS. HIPEC with cisplatin (75 mg/m2, temperature 42°C, for 60 minutes) was administered with a closed CO2 PRS.

Results Seven out of twenty (35%) patients underwent ultraradical surgical procedures and 3 (15%) bowel resection. After a median follow-up of 21 months (range 7–28) we registered 9 recurrences with a median time-to-recurrence of 9 months (range 5–21). Interestingly 7/9 (77.8%) recurrences were nodal while only one patient had peritoneal relapse (5%) and one more recurred with pleural disease. Only 2 patients died from relapsed disease.

Conclusions Our preliminary efficacy data showed that peritoneal recurrence in AOC may be potentially reduced by the

implementation of HIPEC with the CO2 PRS, probably due to a better drug distribution in the peritoneal cavity. This is of critical importance given that pattern of recurrence as carcinomatosis is undoubdtely associated with unfavourable outcome.

EPV227/#79 OVARIAN CANCER INCIDENCE AFTER BILATERAL SALPINGO-OOPHORECTOMY IN WOMEN WITH HISTOLOGICAL PROVEN ENDOMETRIOSIS OR ADENOMYOSIS

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Objectives Endometriosis is associated with an increased ovarian cancer incidence. Surgical treatment of endometriosis might reduce this risk. Therefore, we assessed the ovarian cancer incidence in women with endometriosis after bilateral salpingo-oophorectomy (BSO).

Methods All women with histological proven endometriosis between 1990 and 2015 in the Netherlands were identified. Women with a BSO without ovarian cancer at time of surgery were selected as cases (n=14,410). We selected two control cohorts; 1) women with histological proven endometriosis without BSO or with ovarian cancer at time of BSO (n=115,323), and 2) women with a benign dermal nevus (n=132,654). Histological diagnoses of ovarian or extra-ovarian cancers were retrieved. Incidence rate ratios (IRR) were estimated for (extra) ovarian cancer.

Results We identified 13 (0.09%) extra-ovarian cancers in the BSO cohort and 2,036 (1.8%) and 471 (0.4%) ovarian cancers in the endometriosis and nevus cohort, respectively. We found an age-adjusted IRR of 0.02 (95%CI 0.01–0.04) when the BSO cohort was compared with the endometriosis cohort and an age-adjusted IRR of 0.20 (95%CI 0.11–0.37) when comparing the BSO to the nevus cohort (table 1). Median age at cancer diagnosis was 61 (IQR 56–74) in the BSO cohort, 55 (IQR 48–63) in the endometriosis cohort and 58 years (IQR 51–65) in the nevus cohort (both $p<0.05$).

Conclusions We found a significantly reduced (extra-)ovarian cancer incidence in women with endometriosis and a BSO when compared to both controls with endometriosis without BSO, and controls without histological proven endometriosis.

Abstract EPV227/#79 Table 1 Estimated incident rates per 100,000 person-years, crude incidence rate rations, and age-adjusted incidence rate ratios of ovarian cancer in women with endometeriosis with BSO compared to 1) women with endometriosis without BSO (or BSo at time of ovarian cancer) and 2) women with a being dermal nervus

	Incidence rate per 100,000 person-years (95% CI)	Crude incidence rate ratios (95% CI)	Age-adjusted incidence rate ratios (95% CI)
BSO	6.47 (3.75-11.14)	-	-
Endometriosis without BSO	118.40 (113.33-123.57)	0.05 (0.03-0.09)	0.02 (0.01-0.04)
Nevus	23.21 (21.20-25.40)	0.28 (0.15-0.48)	0.20 (0.11-0.37)

Data are in numbers, percentages, or incidence rate ratios.
CI, confidence interval; BSO, bilateral salpingo-oophorectomy

EPV228/#80 INCREASED INCIDENCE OF OVARIAN CANCER IN BOTH ENDOMETRIOSIS AND ADENOMYOSIS

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Objectives Recently we conducted a study in which we found an increased association of ovarian cancer in women with endometriosis. Analyses showed that the cohort included both women with endometriosis externa and adenomyosis. Therefore, in the present study we assessed the association between endometriosis and/or adenomyosis and ovarian cancer.

Methods We identified all women with histological proven endometriosis (51,544 women) and/or adenomyosis (85,015 women) from the Dutch pathology database (1990–2015) and matched them with women with a benign dermal nevus (132,654 women). Histology results for ovarian cancer were retrieved. We estimated crude and age-adjusted incidence rate ratios (IRR) for ovarian cancer.

Results We found 1,017 (2.0%), 1,284 (1.5%) and 471 (0.4%) ovarian cancer cases in the endometriosis, adenomyosis and nevus cohort, respectively. The age-adjusted IRRs were 19.75 (95%CI 16.70–23.35) in the endometriosis cohort and 5.93 (95%CI 4.91–7.16) in the adenomyosis cohort (table 1). The highest IRRs were found for endometrioid and clear cell ovarian cancer subtypes (table 1). Excluding the first year of follow-up did not result in a significant IRR for ovarian cancer overall but resulted in a statistically significant IRRs for clear cell and endometrioid ovarian cancer (table 1).

Conclusions We found an increased ovarian cancer incidence in both histological proven endometriosis and adenomyosis. This increased incidence was largest for endometriosis. Excluding the first year of follow-up resulted in an increased incidence for endometrioid ovarian cancer in both cohorts and clear cell ovarian cancer in the endometriosis cohort.

Abstract EPV228/#80 Table 1 Observed number of ovarian cancers, estimated incidence rate per 100,000 person-years, crude incidence rate ratios and age-adjusted incidence. Rate ratios of ovarian cancers of women with endometriosis or adenomyosis compared with a benign dermal nevus, per ovarian cancer subtype and overall

	Total group				>1 year of follow-up*			
	ON	IR per 100,000 person years (95%CI)	Crude IRR (95%CI)	Age-adjusted IRR (95%CI)	ON	IR per 100,000 person years (95%CI)	Crude IRR (95%CI)	Age-adjusted IRR (95%CI)
Clear cell								
Endometriosis	259	38.76 (34.31-43.78)	23.14 (16.14-34.13)	91.67 (59.33-141.66)	38	5.69 (4.14-7.82)	3.39 (2.08-5.56)	3.92 (2.19-7.01)
Adenomyosis	155	12.33 (10.54-14.44)	7.36 (5.05-11.01)	12.40 (7.90-19.48)	23	1.83 (1.22-2.75)	1.09 (0.61-1.91)	1.23 (0.63-2.40)
Nevus	34	1.67 (1.20-2.34)	ref	ref	32	1.58 (1.20-2.34)	ref	ref
Endometrioid								
Endometriosis	344	51.43 (46.23-57.22)	21.77 (16.06-30.09)	104.08 (72.89-148.61)	29	4.34 (3.02-6.24)	2.10 (1.26-3.45)	2.39 (1.28-4.45)
Adenomyosis	302	24.04 (21.47-26.91)	10.16 (7.48-14.09)	19.89 (13.93-28.69)	50	3.93 (3.02-5.22)	1.92 (1.22-2.97)	2.51 (1.28-4.90)
Nevus	48	2.37 (1.79-3.14)	ref	ref	41	2.02 (1.49-2.74)	ref	ref
Serous								
Endometriosis	235	35.17 (30.95-39.96)	2.58 (2.16-3.08)	8.29 (5.37-10.73)	58	8.68 (6.71-11.23)	0.65 (0.48-0.87)	0.75 (0.45-1.22)
Adenomyosis	518	41.23 (37.83-44.93)	3.02 (2.61-3.51)	4.07 (3.09-5.36)	140	11.86 (10.10-13.92)	0.89 (0.73-1.10)	1.03 (0.68-2.21)
Nevus	277	13.65 (12.13-15.35)	ref	ref	208	13.21 (11.72-14.88)	ref	ref
Mucinous								
Endometriosis	93	14.67 (12.03-17.88)	6.33 (4.43-9.17)	10.21 (5.94-17.54)	9	1.35 (0.70-2.59)	0.68 (0.29-1.43)	0.49 (0.18-1.34)
Adenomyosis	159	12.66 (10.83-14.78)	5.46 (3.92-7.74)	5.64 (2.71-11.74)	24	1.91 (1.28-2.85)	0.97 (0.56-1.65)	0.44 (0.21-0.91)
Nevus	47	2.32 (1.74-3.08)	ref	ref	39	1.92 (1.40-2.65)	ref	ref
Adenocarcinoma NOS								
Endometriosis	81	12.12 (9.75-15.07)	3.78 (2.69-5.33)	12.84 (7.80-21.16)	16	2.39 (1.47-3.91)	0.82 (0.44-1.45)	0.86 (0.42-1.76)
Adenomyosis	150	11.94 (10.17-14.01)	3.73 (2.77-5.07)	5.22 (3.39-8.05)	44	3.50 (2.61-4.71)	1.20 (0.80-1.81)	1.91 (1.08-3.38)
Nevus	65	3.20 (2.51-4.08)	ref	ref	57	2.81 (2.17-3.64)	ref	ref
All ovarian cancers								
Endometriosis	1,017	152.19 (143.12-161.84)	6.56 (5.87-7.33)	19.75 (16.70-23.35)	150	22.46 (19.13-26.34)	1.03 (0.85-1.24)	1.01 (0.75-1.35)
Adenomyosis	1,284	102.19 (96.75-107.94)	4.40 (3.96-4.90)	5.93 (4.91-7.16)	290	23.08 (20.57-25.90)	1.06 (0.91-1.23)	1.17 (0.74-1.84)
Nevus	471	23.21 (21.20-25.40)	ref	ref	430	21.65 (19.70-23.75)	ref	ref

Data are in numbers, percentages (%) or incidence rate ratios.
*Defined as endometriosis, adenomyosis or nevus diagnosis at least a year before censoring date (autopsy, BSO, or ovarian cancer).
Abbreviations: ON= observed number, IR=Incidence Rate, IRR= Incidence Rate Ratio, NOS= Not otherwise specified, CI= confidence interval.