rates of patients undergoing upper and lower abdominal cytoreductive surgery in our institution.

Methodology Patients who underwent cytoreductive surgery for ovarian malignancies from 2014 to 2020 were retrospectively identified from an institutional database. Upper abdominal cytoreduction was defined anatomically as debulking of disease proximal to the ligament of Treitz. Perioperative and postoperative outcomes were analyzed. ($p<0.05$ is referred as statistically significant)

Results A total of 148 operations were performed. All operations were performed by a single gynecologist oncologist. In operations with combined upper and lower abdominal cytoreduction versus only lower abdominal cytoreduction; diaphragm injury, blood transfusion, length of stay, atelectasis, pneumonia, effusion, wound infection and need for intensive care unit were found to be statistically significantly higher in patients undergoing upper abdominal surgery than in patients undergoing lower abdominal surgery.

Abstract 2022-RA-951-ESGO Table 1 Comparison of perioperative and postoperative morbidity and mortality between both groups

Variables	Group 1 Upper+Lower (n=55)	Group 2 Lower (n=93)	P value
Intraoperative Complications (n%)			
Vascular	12 (21.8)	21 (22.6)	0.914
Gastrointestinal	6 (10.9)	9 (9.7)	0.810
Urinary	8 (14.5)	6 (6.5)	0.104
Diaphragm injury	7 (12.7)	0 (0)	0.001
Blood transfusion	16 (29.1)	12 (13.0)	0.017
Postoperative Complications (n%)			
Length of stay; median; [min-max]; d	8 [1–45]	6 [1–68]	0.002
Atelectasis, pneumonia, effusion	11 (20)	8 (8.6)	0.045
Bleeding	2 (3.6)	2 (2.2)	0.628
Abscess	5 (9.1)	2 (2.2)	0.102
Ileus	2 (3.6)	4 (4.3)	1.000
Wound infection	19 (34.5)	14 (15.1)	0.006
Anostomotic leak	5 (9.1)	2 (2.2)	0.102
Hernia	4 (7.3)	7 (7.5)	0.955
Deep vein thrombosis	4 (7.3)	1 (1.1)	0.064
Need for intensive care unit	32 (58.2)	32 (34.4)	0.005
Mortality at 30 days	1 (1.8)	1 (1.1)	1.000

Conclusion Upper abdominal surgery is a valid procedure for optimal cytoreduction in ovarian cancer. However, there is a greater risk of some complications occurring compared to lower abdominal surgery. Upper abdominal surgery in advanced ovarian cancer can be applied to patients with an acceptable complication profile when the possible survival advantage to be obtained is taken into account.

2022-RA-953-ESGO SERINE METABOLISM REMODELING AFTER PLATINUM-BASED CHEMOTHERAPY IS A NEW VULNERABILITY IN RESISTANT OVARIAN CANCER PATIENTS

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Introduction/Background Resistance to platinum-based chemotherapy represents a major challenge for the management of many cancer patients, particularly those with epithelial ovarian cancer. Despite improved knowledge of the molecular determinants of platinum resistance, lack of clinical applicability still limits exploitation of many potential targets, leaving patients with limited options. Rewiring of cellular metabolism is now recognized as one of the hallmarks of cancer cells, and the ability of cancer cells to plastically change their use of nutrients and amino acids has been linked to cell adaptation to death signaling and survival. Serine biosynthesis has been linked to cancer growth and poor prognosis in various cancer types, however its role in platinum-resistant ovarian cancer has not been investigated before.

Methodology Phosphoglycerate dehydrogenase (PHGDH) expression has been determined in matched biopsies from ovarian cancer patients collected longitudinally at diagnosis and at relapse after platinum treatment. Metabolomic and molecular analyses have been performed on the isogenic ovarian cancer cell lines A2780 (wt/cis). Results have been confirmed in sensitive, resistant and matched ovarian cancer patient-derived xenograft (PDX) models and PDX-derived organoid cultures.

Results We discovered that a subgroup of resistant tumors decreases phosphoglycerate dehydrogenase (PHGDH) expression at relapse after platinum-based chemotherapy. Mechanistically, we observe that this phenomenon is accompanied by a specific oxidized nicotinamide adenine dinucleotide (NAD^+) regenerating phenotype, which helps tumor cells in sustaining Poly (ADP-ribose) polymerase (PARP) activity under platinum treatment. Consequently, combining carboplatin and PARP or NAD^+-synthesis inhibitors is effective in resistant models showing decreased serine synthesis activity.

Conclusion Our findings, accepted for publication in Nature Communications, have immediate and strong clinical applicability, because they identify alterations in serine and NAD+ metabolism as actionable vulnerabilities in a subgroup of platinum resistant ovarian cancers, and provide a rationale to test novel combinatorial therapeutic approaches to target resistance in these patients.