

Poster 47: Predicting complete interval cytoreduction (ICS) in advanced serous ovarian cancer (SOC) patients using CA-125 elimination rate constant K (KELIM): a single institution retrospective study

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Topic
Ovarian

Objectives

To investigate the predictive value of KELIM for complete interval cytoreduction in patients (Pts) with advanced ovarian cancer undergoing minimally invasive surgery (MIS) versus laparotomy (LAP).

Methods

Pts were identified with advanced high-grade SOC who were treated with at least 3 cycles of neoadjuvant chemotherapy (NACT) and underwent ICS between 2008 and 2025. KELIM scores were calculated during NACT who had at least 3 Ca-125 levels. Pt demographics, serial CA-125 levels during neoadjuvant chemotherapy, and surgical and oncologic outcomes were collected and analyzed using R statistical software.

Results

132 pts were included in the analysis: 79 in the LAP group and 53 in the MIS group. Baseline characteristics were well-balanced, with no significant differences in age ($P = 0.460$) or ethnicity ($P = 0.224$). KELIM was similarly distributed between groups ($P = 1.000$). FIGO staging distribution differed significantly between groups ($P = 0.001$). The MIS cohort had a higher proportion of stage III patients compared to the open surgery group (79.2% vs. 49.4%). The R0 resection rate was numerically higher in the MIS cohort (64.2% vs. 45.6%), although this difference did not reach statistical significance ($P = 0.055$). Multivariate logistic regression analysis identified a high KELIM score (≥ 1) as an independent predictor of R0 resection (OR = 2.694, 95% CI: 1.280–5.830, $P = 0.010$). In stratified analysis, high KELIM scores significantly increased R0 rates in the LAP group (56.8% vs. 31.4%, $P = 0.043$). The R0 was higher in the MIS group with favorable KELIM but this was not statistically significant (72.4% vs. 54.2%, $P = 0.275$). In multivariate Cox regression analysis adjusting for age, FIGO stage, KELIM score, and R0 resection status, PFS did not differ significantly between MIS and LAP groups (HR = 0.790, 95% CI: 0.529–1.180, $P = 0.249$). High KELIM scores were associated with longer PFS but this was not statistically significant. (HR = 0.761, $P = 0.168$).

Conclusions

KELIM score independently predicts complete cytoreduction in advanced ovarian cancer undergoing interval surgery, with patients achieving high scores demonstrating 2.7-fold increased odds of R0 resection regardless of surgical approach. These findings highlight the importance of tumor biology in determining surgical outcomes beyond technical factors.

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