**Aim:** Ovarian yolk sac tumor (OYST) is a very rare malignancy arising in young women. Due to the rarity of this tumor, only few retrospective series have been published. We recently reported one of the largest series on outcome in OYSTs pts. Here, we aimed to evaluate the serum alphafoetoprotein (AFP) early decline which might help to make appropriate risk-based decision about therapy.

**Methods:** This retrospective study is based on prospectively recorded OYST cases at the Institut Gustave Roussy (IGR). Pediatric cases were excluded. Survival curves were estimated by the Kaplan-Meier method. Serum AFP decline was calculated with the formula applied at IGR in poor prognosis germ cell tumor. Pts were classified in either favorable or unfavorable decline. Univariate analysis using the log-rank test tested possible associations between survival and patient or disease covariates. Multivariate analysis was performed using a model of logistic regression.

**Results:** Between 1976 and 2006, 84 pts were registered. Data on AFP were available to calculate AFP early decline for 57 pts. Median post-operative AFP was 1040 (2 - 116 539) ng/mL. Most of the pts (48/57) have undergone fertility-sparing surgery. Cisplatin-based chemotherapy was given 56/57 pts and 42/57 pts received bleomycin, etoposide and cisplatin (BEP) regimen. Overall 5-year and event-free survival rates were 82% and 81%, respectively. The disease stage, presence of ascites at presentation, BEP regimen, serum AFP half-life and early AFP decline were significantly predictive factors. Overall survival in pts with favorable AFP decline was 96% whereas it was 49% in pts with unfavorable decline (p < 0.001). In the multivariate model only the absence of ascites at initial diagnosis and serum AFP decline were significantly associated with a better overall survival.

**Conclusions:** Serum AFP early decline help to identify poor prognosis ovarian YSTs pts. This may be relevant for the management of OYSTs since it has been shown in a phase III study (GETUG 13) in testicular poor prognosis germ cell tumor that early switch to a dose dense chemotherapy regimen for pts with slow tumor marker decline reduces the risk of progression or death.

**Disclosure:** All authors have declared no conflicts of interest.