# Optimal Cytoreduction Followed by Chemoradiation Improves Survival of Stage IVB Uterine Serous Carcinoma


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## OBJECTIVES

- Despite recent advances in adjuvant therapy for various gynecologic malignancies, the prognosis of stage IVB uterine serous carcinoma (USC) remains extremely poor
- Reported 5-year survival of stage IVB USC is <20%
- The goal of this study is to evaluate the survival impact of cytoreductive surgery and identify other prognostic factors in stage IVB USC

## METHODS

- A multicenter retrospective analysis of patients with USC from 2000 – 2018
- Inclusion criteria:
  - Comprehensive surgical staging/tumor debulking
  - Adjuvant chemotherapy+/-external beam radiation therapy (EBRT)
- Optimal cytoreduction (R1): residual disease ≤1cm
- Suboptimal cytoreduction (R2): residual disease >1cm
- Complex surgery was defined as: surgery requiring multiple small bowel resections, colon resection +/- reanastomosis, diaphragmatic surgery, splenectomy or gastrectomy
- Patients receiving neoadjuvant chemotherapy were excluded
- Progression free survival (PFS) and overall survival (OS) analysis was performed using Kaplan-Meier estimates
- Multivariate analysis (MVA) was performed using Cox proportional hazards model

## CONCLUSIONS

- In stage IVB USC, the amount of residual disease follow cytoreductive surgery is the most important determinant of survival
- Optimal cytoreduction should be the goal at the time of primary surgery
- The combination of chemoradiation was associated with superior survival compared to chemotherapy alone and should be further investigated in this patient population
- Future studies are needed to evaluate the prognostic significance of biomarkers, including HER2NEU, in relation to cytoreduction and chemoradiation vs chemotherapy alone

## RESULTS

- Final analysis included 68 patients
- Adjuvant therapy:
  - 56 (82%) received systemic chemotherapy alone
  - 12 (18%) received combination chemotherapy and EBRT +/- vaginal brachytherapy (chemoradiation)
- Survival of entire cohort:
  - Median PFS 8 months
  - Median OS 13 months
- Median PFS based on cytoreduction:
  - R1 9 months vs. R2 4 months ($p$<0.001)
- Median OS based on cytoreduction:
  - R1 17 months vs. R2 7 months ($p$<0.001)
  - Compared to R1, cytoreduction to R0 was not associated with a survival benefit
    - R0 18 months vs 17 months R1 ($p$=0.67)
- Median PFS based on adjuvant therapy:
  - 11 months vs. 7 months favor chemoradiation ($p$=0.024)
- Median OS based on adjuvant therapy:
  - 22 months vs. 13 months favor chemoradiation ($p$=0.65)
- There was no difference in the frequency of treatment delays between regimens ($p$=0.832).
- On MVA, only the amount of residual disease ($p$=0.001) and receipt of adjuvant chemoradiation ($p$=0.010) were independent predictors of survival

| | R0 (N=11) | R1 (N=39) | R2 (N=18) | p-value* |
|---|---|---|---|---|
| Age at surgery Mean (range) | 69 (61-89) | 66 (52-81) | 63 (44-79) | 0.039 |
| | N (%) | N (%) | N (%) | |
| Race | | | | |
| African American | 11 (100) | 35 (90) | 17 (94) | 0.936 |
| Caucasian | 0 (0) | 3 (8) | 1 (6) | |
| Other | 0 (0) | 1 (2) | 0 (0) | |
| Histology | | | | |
| Pure USC | 10 (91) | 35 (90) | 17 (94) | 0.843 |
| Mixed | 1 (9) | 4 (10) | 1 (6) | |
| Type of surgery | | | | |
| Standard | 3 (27) | 11 (28) | 6 (33) | 0.911 |
| Complex | 8 (73) | 28 (72) | 12 (67) | |
| Adjuvant therapy | | | | |
| Chemotherapy-alone | 9 (82) | 32 (82) | 15 (83) | 0.992 |
| Chemoradiation | 2 (18) | 7 (18) | 3 (17) | |
| Type of RT | | | | |
| EBRT alone | 1 (50) | 2 (29) | 1 (33) | 0.852 |
| EBRT + VBT | 1 (50) | 5 (71) | 2 (67) | |
| Chemotherapy regimen: | | | | |
| Carboplatin-paclitaxel | 8 (73) | 30 (77) | 15 (83) | |
| TAP | 1 (9) | 4 (10) | 2 (11) | 0.996 |
| AP | 0 (0) | 2 (5) | 0 (0) | |
| Carboplatin-docetaxel | 1 (9) | 1 (3) | 0 (0) | |
| Cisplatin-Paclitaxel | 1 (9) | 0 (0) | 0 (0) | |
| Doxorubicin | 0 (0) | 2 (5) | 1 (6) | |

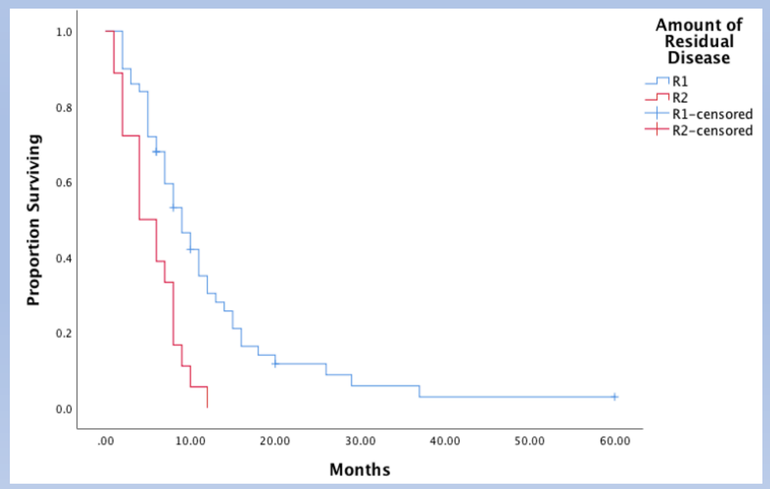


**Figure A:** Progression free survival based on cytoreduction

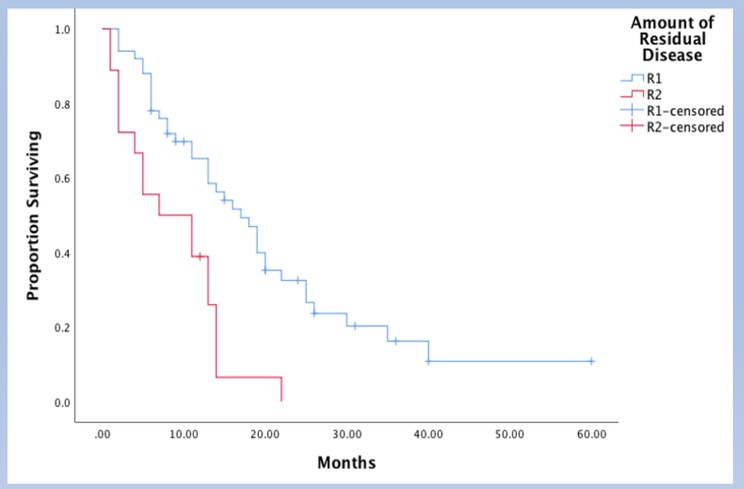


**Figure B:** Overall survival based on cytoreduction


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