HISTOPATHOLOGICAL RESPONSE ON CLINICORADIOLOGICAL PRESENTATION AND PROGNOSIS OF PATIENTS WITH ADVANCED HIGH GRADE SEROUS OVARIAN CARCINOMA TREATED WITH NEOADJUVANT CHEMOTHERAPY

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Objective

To analyze the influence of histopathological response on clinicoradiological and survival of patients with high-grade serous ovarian carcinoma (HGSC) after six cycles of neoadjuvant chemotherapy

Methods

From 2008 to 2016, patients with advanced HGSC (FIGO IIIC-IVB) who underwent 6 cycles of NACHT (carboplatin-paclitaxel) followed by cytoreductive surgery were reviewed and divided in 3 groups: complete or near complete pathological response (1), pathological residual tumor with complete cytoreduction (2), and sub-optimal cytoreduction (3). CA-125 and computed tomography response were classified by RECIST criteria and compared using Fisher's exact and McNemar tests, respectively. Progression-free survival (PFS) and overall survival (OS) were analyzed using Cox-proportional hazard.

Results

One-hundred-one patients, median age 60 years, followed by median of 36 months, were included. Groups 1 (n=10), 2 (n=61), and 3 (n=30) presented, respectively, mean OS of 75.7 (63-88); 55 (95% CI 41-69), and 26 (95% CI 19-32) months ($p = <0.004$). The median DFS was 33 (27-66) and 7.7 (6-8) months for groups 1 and 2, respectively. Complete radiological response was seen in 80%, 25% and 3% ($p = <0.001$) while normalization of CA-125 was observed in 100%, 61% and 38% on groups 1, 2 and 3, respectively ($p = 0.003$). OS among patients with CA-125 normalization (n=62) was higher than among non-responders (61, CI 95% 41-81 months vs. 30, CI 95% 23-37 months ($p = 0.003$). Median OS associated with complete (N=24), partial (N=69) and stable/progression (N=5) radiological response was 79(24-134), 35(26-43) and 30(12-48) months, respectively ($p = 0.034$). Patients characteristics are described in table 1.

Table 1 – Patients characteristics according to the grade of histological response to neoadjuvant chemotherapy.

	Group 1 (N = 10)	Group 2 (N = 61)	Group 3 (N = 30)
Age (Median)	59	60	60
BMI	24	24,65	24,5
FIGO Stage IV	1 (10%)	12 (20%)	10 (33%)
ECOG ≥ 2	4 (40%)	18 (29%)	12 (40%)
Delay or Dose Reduction on NACHT	1 (10%)	4 (6,5%)	11 (36%)
CA-125 Normalization	10 (100%)	37 (61%)	11 (36%)
Complete Radiological Response	8 (80%)	15 (25%)	1 (3%)

Group 1 = Complete Histological Response, Group 2 = Partial histologic response with complete/optimal cytoreduction; Group 3 = partial response and residual disease after cytoreduction

Figure 2 – Survival Curves according to the histological response to neoadjuvant chemotherapy in high grade serous ovarian carcinoma. A – Overall Survival; B – Disease Free Survival.

Figure 3 – Computed tomography of a patient with complete imaging response. A and B – before neoadjuvant chemotherapy; C and D – after six cycles of neoadjuvant chemotherapy.

Conclusions

Complete histopathological response, normalization of CA-125 and complete radiological response after NACHT were associated with improved overall and disease free survival.

Figure 1 - Photographs illustrating the Chemotherapy Response Score (CRS) in omental tumor, in High Grade Serous Ovarian Carcinoma. (A) CRS 1: minimal regression changes, most of the sample with viable tumor. (B) CRS 2: extensive regression changes with focal viable tumor. (C) CRS 3: complete response characterized by edema, fibroxanthomatous reaction and dystrophic calcifications.