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Introduction

- Platinum- and taxane-based chemotherapy is the standard of care in patients with gynecological cancers.
- Exposure to paclitaxel and, particularly, repeated exposure to carboplatin has the risk of developing hypersensitivity reactions (HSR).
- Clinically relevant HSR may result in a regimen change to a less effective treatment in order to avoid anaphylaxis which is rapid in onset and can cause death.
- Systematic desensitization to platinum and taxane HSR following adapted standard tolerance induction protocols can be used to complete chemotherapy according to standard regimen.

Material and Methods

- Single center retrospective chart review analysis with collected data of 241 patients with gynecological cancers (epithelial ovarian/peritoneal/fallopian tube cancer n=140 (58.1%), endometrial n=54 (22.4%) and cervical cancer n=47 (19.5%)) from 2014-2021
- At least one cycle of platinum- or taxane-based chemotherapy
- In this exploratory analysis, the rate of HSR and successful desensitization was evaluated.
- Assessment of prognostic factors for HSR, safety of the procedure, and identifiable risk factors for failure.
- Outcome analysis was performed to assess the clinical benefit of a successful desensitization and, therefore, completion of standard chemotherapy.

Results

- Out of 241 patients, 14.11% (N=34) had an HSR to either taxane- (8.3%, N=20) or platinum-based (5.81%, N=14) chemotherapy. In 73.48% of the HSR patients, a desensitization was performed with 78.54% of the patients receiving platinum and 70% taxane, respectively (**Table 1**).
- In our cohort, the rate of successful desensitization was 100%.
- Patients with HSR were significantly younger with 56.6 years of age compared to no HSR with 64.5 years (P=0.003).

DESENSITIZATION	ALL N=241	NO HSR N=207	HSR TO PLATINUM N=14	HSR TO TAXANE N=20
NO	213 (88.4%)	207 (100%)	3 (21.4%)	3 (15.0%)
YES SUCCESSFUL	25 (10.37%)	0 (0.00%)	11 (78.54%)	14 (70.0%)
NO AND CHANGE CHT	3 (1.24%)	0 (0.00%)	0 (0.00%)	3 (15.0%)

Table 1 Hypersensitivity reaction and Desensitization in gynecological cancers (Epithelial ovarian/peritoneal/fallopian tube, endometrial and cervical cancer) *HSR=hypersensitivity reaction; CHT=chemotherapy; N=number of patients*

	NO HSR N=207	HSR WITH DESENSITIZATION N=25	P-VALUE
NUMBER OF CHT LINES	1.00 [1.00;7.00]	2.00 [1.00;7.00]	0.005
NUMBER OF PLATINUM CYCLES	6.00 [0.00;24.0]	7.00 [2.00;20.0]	0.004
CUMULATIVE DOSE OF PLATINUM	3040 [0.00;13470]	3940 [1325;11130]	0.011
NUMBER OF TAXANE CYCLES	5.00 [0.00;13.0]	6.00 [1.00;18.0]	0.004
CUMULATIVE DOSE OF TAXANE	1435 [0.00;8360]	1710 [16.0;5100]	0.052

Table 2 Amount of platinum and taxane chemotherapy in patients with gynecological cancers (epithelial ovarian/peritoneal/fallopian tube, endometrial and cervical cancer) without HSR versus patient with HSR and desensitization. Median with [Minimum, Maximum] is shown. A p-value < 0.05 is considered as significant. *CHT=chemotherapy; HSR=hypersensitivity reaction; N=number of patients*

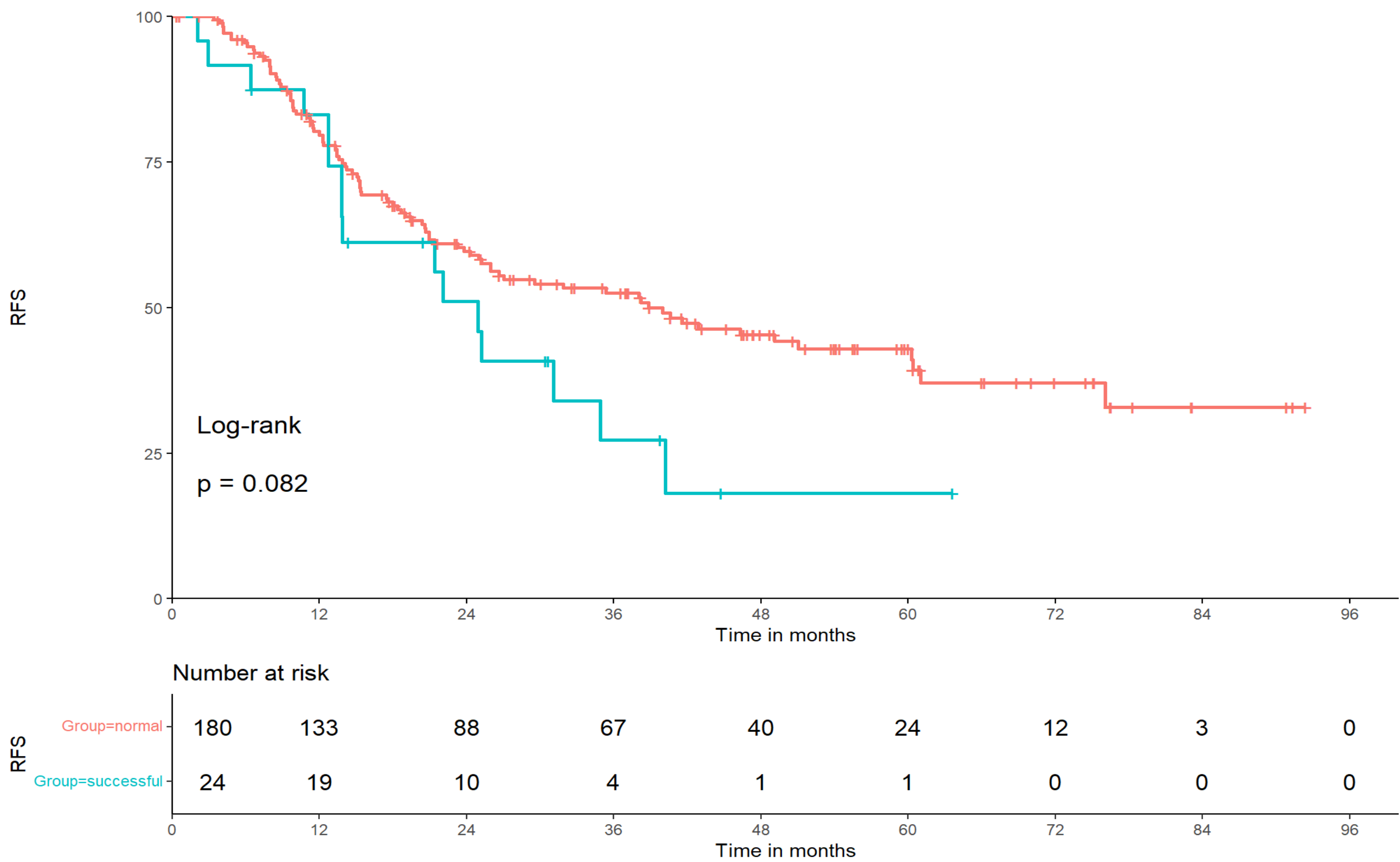


Figure 1 Recurrence free survival (RFS) of patients without HSR (Group normal) compared to patients with HSR, successful desensitization and continuation of platinum and taxane chemotherapy. For RFS, events are defined as recurrence or death of any cause. But subjects, that died without recurrence and are dead of disease (DOD) are excluded from RFS. Because they are not at risk for recurrence. *RFS=recurrence free survival*

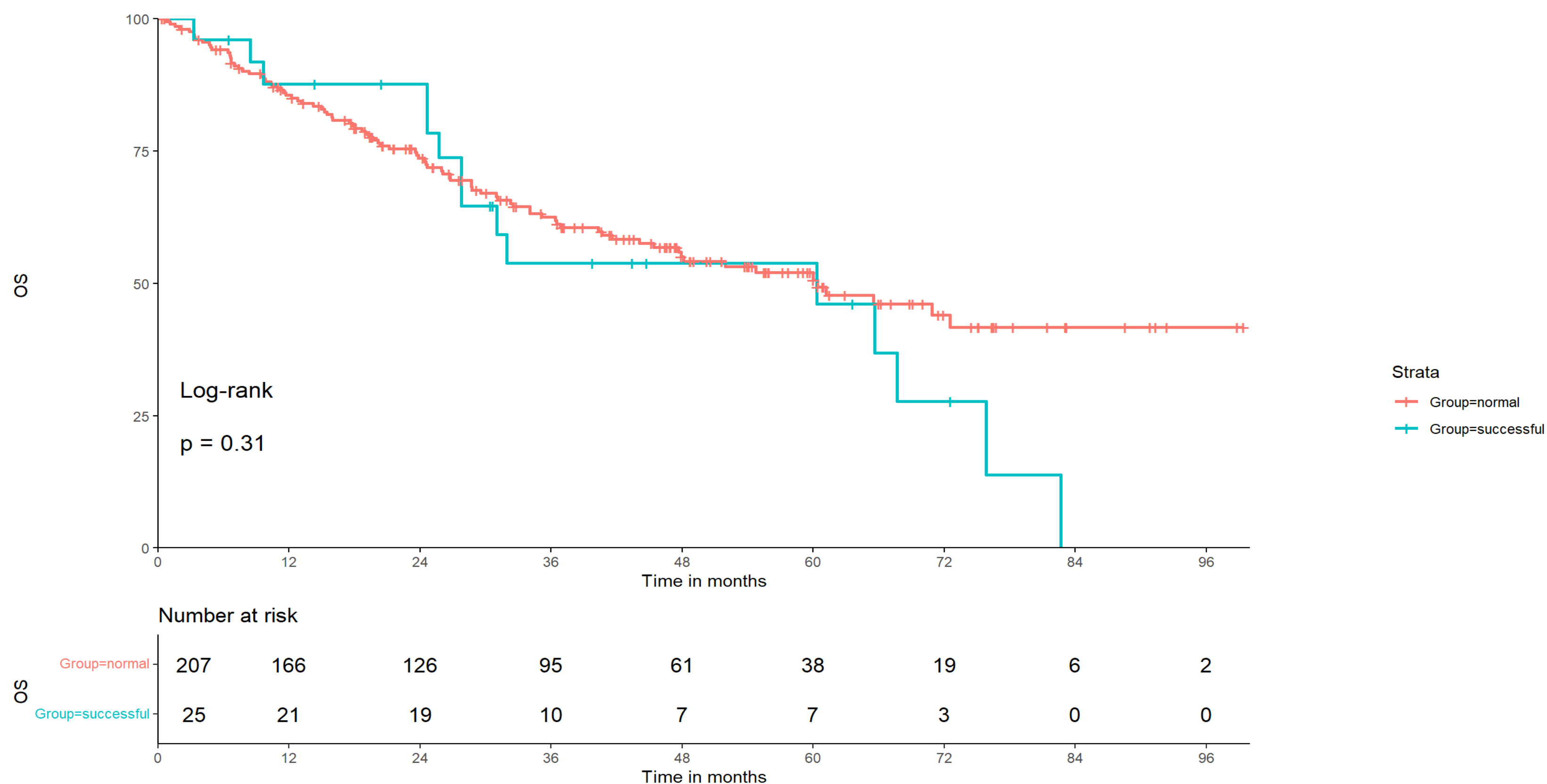


Figure 2 Overall survival (OS) of patients without HSR (Group normal) compared to patients with HSR, successful desensitization and continuation of platinum and taxane chemotherapy. *OS=Overall survival*

Conclusion

Tolerance induction for platinum and taxane HSR is safe with a high success rate. HSR is not detrimental to patients who underwent desensitization, as their outcome data remain comparable to patients without HSR. Desensitization procedure should be proposed to patients with HSR as a standard of care to achieve optimal treatment in gynecological cancer.