



CARBOPLATIN-INDUCED HYPERSENSITIVITY REACTION IN CANCER PATIENTS: 5 YEARS EXPERIENCE AT PRIVATE TERTIARY CARE CENTER

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Introduction

The rate of hypersensitivity reactions in cancer patients receiving carboplatin has been reported to increase after multiple doses of the agent. In 2012, we studied retrospectively for Carboplatin adverse event in 91 patients who received the agent for at least 3 cycles. In this study, we conduct further to investigate the factors associated to the onset of carboplatin-induced hypersensitivity.

Objectives

To identify relationship between Carboplatin hypersensitivity and patients' variables for further suggested steps to prevent and manage carboplatin hypersensitivity reactions to healthcare staffs.

Table 1. Comparison of characteristics between the two groups who did and did not develop Carboplatin-related hypersensitivity reactions in patients receiving carboplatin for ≥ 3 cycles

	Carboplatin-related Hypersensitivity reaction		p Value
	Yes	No	
No. of patients	22	512	
Age (years)	51.5 ± 8.6	55 ± 15.0	0.749
Type of cancer			
Gynecologic cancers (n)	17	189	
Lung Cancer (n)	3	135	
Breast Cancer (n)	2	70	
Head & Neck cancer (n)	0	41	
Esophageal Cancer (n)	0	15	
Lymphoma (n)	0	15	
Bladder cancer (n)	0	12	
Others (n)	0	35	
Cumulative dose of Carboplatin (mg)	4,858.0 ± 3259	2,502.7 ± 1550.1	<0.0001
No. of Carboplatin administration (cycle)	10 ± 8.5	6 ± 2.9	<0.0001
History of drug or food allergy (n)	2	110	0.162

Conclusions

We did not find any statistically significant relationship between carboplatin related hypersensitivity and cumulative dose of carboplatin, number of carboplatin administration, age and history of drug or food allergy.

References

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Methods

A retrospective study of 766 patients 534 of them received carboplatin containing regimen or concurrent chemotherapy of carboplatin during radiotherapy for at least three cycles. The data were collected from the medical record since January 2011 to January 2016 in Bumrungrad International Hospital and evaluated by Naranjo's algorithm. Total of 534 patients were diagnosed with gynecologic and breast cancer (n=278), lung cancer (n=138) and nasopharyngeal cancer (n= 41), were treated with Carboplatin. 357 of the patients are female and 177 are male. Median age is 55 years, mean Carboplatin AUC was 5, mean Carboplatin cumulative dose was 2599 mg, and mean Carboplatin cycles was 6.

Results

Out of 534 patients, there were 22 events of Carboplatin hypersensitivity. All are considered moderate reaction which require treatment (interruption of infusion, given IV antihistamine) and classified as probable (score 5-8) by Naranjo's algorithm. Ninety percent of the patients were Asian population, the rest six percent were Caucasian.

Table 2. Multivariate logistic regression analysis of the risk factors for carboplatin-related hypersensitivity reactions (n = 534)

Factors	R ²	95% Confidence interval	p Value
Cumulative dose of Carboplatin (mg)	0.102	2.61 x 10 ⁻⁶ – 2.85 x 10 ⁻⁵	0.018
No. of Carboplatin administration (cycle)		0.005 – 0.018	0.0002
Age (years)		-0.001 – 0.001	0.97
History of drug or food allergy (n)		-0.07 – 0.005	0.09