

Capsule Summary

CCO Independent Conference Coverage of the 2006 Annual Meeting of the American Society of Clinical Oncology*

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Increased Response Rates With Cisplatin Compared With Carboplatin in Patients With Advanced Non-Small-Cell Lung Cancer

CISCA (cisplatin vs carboplatin), randomized meta-analysis of 9 trials

Summary of Key Conclusions

Overall, cisplatin associated with better overall response rate (ORR) compared with carboplatin

ORR did not extend to survival benefit

Cisplatin possibly superior to carboplatin for survival (subgroup analysis)

In combination with third-generation agents

In patients with nonsquamous tumors

Background

Cisplatin and carboplatin part of standard chemotherapy regimens for most solid tumors

Similar mechanism of action, different toxicity profiles

Equivalence proven in some tumor types, but controversy exists for advanced non-small-cell lung cancer (NSCLC)

Meta-analysis performed to compare efficacy of cisplatin and carboplatin in first-line chemotherapy for advanced NSCLC

Summary of Study Design

Meta-analysis of individual patient data from randomized studies comparing cisplatin- and carboplatin-based therapies

Studies published and unpublished

Patients with stage III or IV NSCLC

Chemotherapy regimens differed only by cisplatin or carboplatin component

Primary endpoint

Overall survival

Secondary endpoints

ORR

Toxicity profile

Statistical analysis

Primary analysis for each endpoint based on fixed-effects model

Cox proportional hazards model for treatment effect on overall survival (hazard ratio [HR]; 95% confidence interval [CI])

Logistic regression analysis for objective response probability

Likelihood ratio test ($P \leq .05$) for treatment effect significance

Prognostic factors considered

Age (< 65 years vs \geq 65 years)

Stage (III or IV)

Performance status (1-2 vs 2)

Histology (squamous vs nonsquamous)

Chemotherapy regimen (second vs third generation)

Baseline Characteristics

Total of 2968 patients from 9 trials

<i>Patient Characteristics</i>	<i>Cisplatin (n = 1489)</i>	<i>Carboplatin (n = 1479)</i>
Male, %	76	76
Median age, yrs (range)	60 (24-83)	60 (23-87)
Median cycles, n (range)	4 (0-15)	4 (0-22)
Performance status 0-1, %	86	86
Squamous histology, %	39	39
Stage IV, %	68	69

Main Findings

Survival analysis

Test interaction positive for histology ($P = .098$) and chemotherapy type ($P = .093$)

<i>Subgroup</i>	<i>HR</i>	<i>95% CI</i>	<i>P Value</i>
Histology			
Nonsquamous	1.12	1.01-1.23	.026
Squamous	0.97	0.85-1.10	.586
Generation of chemotherapy			
Second	0.94	0.80-1.11	.467
Third	1.11	1.01-1.21	.026

Carboplatin associated with 7% higher relative risk of death (HR: 1.07; 95% CI: 0.99-1.15; $P = .101$)

ORR: 30% for cisplatin vs 24% for carboplatin

Objective response HR: 1.37 (95% CI: 1.16-1.62; $P < .001$)

Adverse events

Cisplatin associated with more nausea/vomiting, nephrotoxicity

Carboplatin associated with more thrombocytopenia

Reference

Ardizzoni A, Tiseo M, Boni L, et al. CISCA (cisplatin vs carboplatin) meta-analysis: an individual patient data meta-analysis comparing cisplatin versus carboplatin-based chemotherapy in first-line treatment of advanced non-small cell lung cancer (NSCLC). Program and abstracts of the 42nd Annual Meeting of the American Society of Clinical Oncology; June 2-6, 2006; Atlanta, Georgia. Abstract 7011.

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