S0424 Molecular Epidemiology

Coordinating Group: SWOG

Molecular Epidemiology Case-Series Study of Non-Small Cell Lung Cancer in Smoking and Non-Smoking Women and Men

Participants: SWOG, CTSU (endorsed by CALGB, ECOG, NCCTG and RTOG)

Study Coordinators:
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Data Coordinator:
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Date Activated:
10/1/2005

Date Closed:
3/15/2011

Objectives

To assess lung tissue from cancer patients for specific tobacco smoke carcinogens, including PAH- and DNA adducts, alterations in specific genes, including p53 and K-ras, and expression of HER2, estrogen receptors alpha and beta, to determine whether these factors differ by gender and smoking status, adjusting for potential exposures and influential factors, including family smoking status, medication use, hormonal and reproductive factors.

To measure the levels of (PAH)-DNA adducts in lymphocytes and lung tissue, examine correlations between the two tissue sources and to test the hypothesis that DNA damage levels in tissue as well as in lymphocytes are higher in females than males for the same level of smoking.

To determine polymorphisms in several genes involved in the metabolism of the specific carcinogens investigated and in steroidogenesis and metabolism.

To summarize patient self-report questionnaire data on active and passive smoking, other carcinogenic exposures, smoking preference, economic and educational status, family smoking status, reproductive factors, weight loss, and medication use by categories of male versus female and never-smoker versus ever-smoker.

To establish a repository of blood and archived tissue samples for future laboratory analyses.

To evaluate the frequency and distribution of (a) EGFR activating mutations, (b) copy number abnormalities, and (c) EGFR polymorphisms in all available specimens from the S0424 trial.

To evaluate the association between measures of EGFR with gender.

To evaluate the association between measures of EGFR with smoking status.

To explore the identification of prognostic subgroups based on EGFR pathway analysis, ER signaling, tobacco carcinogen exposure, and tobacco-related molecular signatures.

Patient Population

Patients must have newly diagnosed, histologically proven Stage I-IIIB non-small cell lung cancer. Patients with stage IV disease or stage IIIB disease with malignant pleural effusion are not eligible. Patients with pericardial effusions are not eligible

Patients must be registered within four months of diagnosis and must have tumor blocks available and be willing to provide a 30-ml blood sample for testing. Patients must not have documented or self-reported history of significant memory deficit.

Patients must not have received any prior systemic chemotherapy or radiotherapy for lung cancer.

Stratification/Descriptive Factors

Patients will be stratified by gender: male vs female and smoking status: ever-smoker vs never-smoker.

Cancer Control Credits

The NCI Division of Cancer Prevention and Control has assigned 0.5 cancer control credits per registration to this study.

Accrual Goals
The accrual goal is 980 participants.

Summary Statement
On March 15, 2011, this study was permanently closed. The final accrual was 981 patients. Twenty-two patients were ineligible. In addition, two eligible patients withdrew consent to participate in the trial and are not analyzable for any of the study endpoints.

Registration by Institution

Institutions	Total Reg	Institutions	Total Reg
CALGB	99	Dayton CCOP	14
RTOG	75	NSABP	13
ECOG	56	Oregon Hlth Sci Univ	13
NCCTG	52	Martin Memorial CC/H Lee Moffitt CC	12
Columbia University	44	St Elizabeth's MC/Davis, U of CA	12
Hawaii MBCCOP, U of	39	St Louis CCOP	12
Southeast CCC CCOP	37	Columbia River CCOP	10
Puget Sound	34	Kaiser, Sacramento/Davis, U of CA	10
Greenville CCOP	30	MD Anderson, Florida/Arkansas, U of	9
ACSOG	28	Michigan CRC CCOP	9
John Muir Med Ctr/Davis, U of CA	26	Beaumont CCOP	8
Good Samaritan Hosp/Cincinnati MC, U of	21	KaiserPermanenteNCAL	8
City of Hope Med Ctr	19	Mercy General Hosp/Davis, U of CA	8
Davis, U of CA	19	Providence Hosp	8
Ozarks Reg CCOP	19	Central IL CCOP	7
Upstate Carolina	18	Northwest CCOP	7
Loyola University	17	Stormont-Vail Health/Kansas, U of	7
Rochester, Univ of	16	Winthrop - Univ Hosp/Columbia University	7
Wichita CCOP	16	All Other Institutions	112
Columbus CCOP	15	Total (77 Institutions)	981
Montana CCOP	15		

Registration, Eligibility, and Evaluability

Data as of July 7, 2011

	Questionnaire & Specimen Submission		Questionnaire & Specimen Submission
NUMBER REGISTERED	981	ELIGIBLE	959
INELIGIBLE	22	Not Analyzable	2

Evaluable Patients by Stratum

Data as of July 7, 2011

	Male (n=432)		Female (n=525)	
SMOKING STATUS				
Never-smoker	49	11%	188	36%
Ever-smoker	383	89%	337	64%

Patient Characteristics

Data as of July 7, 2011

	Questionnaire & Specimen Submission (n=957)	
AGE		
Median	66.9	
Minimum	33.0	
Maximum	90.0	
SEX		
Males	432	45%
Females	525	55%
HISPANIC		
Yes	31	3%
No	879	92%
Unknown	47	5%

	Questionnaire & Specimen Submission (n=957)	
RACE		
White	837	87%
Black	39	4%
Asian	49	5%
Pacific Islander	5	1%
Native American	4	0%
Multi-Racial	5	1%
Unknown	18	2%