

10th ANNUAL DEPARTMENT OF PATHOLOGY YOUNG INVESTIGATORS' DAY
POSTER SESSION

POSTER #

41

(for Admin. use)

Thursday, April 17th, 2008
TURNER CONCOURSE
REGISTRATION FORM

Applicant's Name: _____ Chanjuan Shi _____ Degree: ___MD, PhD___

Applicant's Division: _____ Pathology _____

Faculty Preceptor: _____ James Eshlemen _____
(Must hold a primary appointment in Pathology)

Appointment Category: ___X___ House Staff _____ Clin Fellow _____ Research Fellow
_____ Medical Student _____ Graduate Student (Program: _____)

Register for: _____ Clinical Research _____ Translational Research ___X___ Basic Research

Full Poster Title * _____ **KRAS2 Gene Mutations in Acinar-Ductal Metaplasia in the
Pancreas: Pancreatic Neoplasia May Start Prior to Pancreatic Intraepithelial Neoplasia Lesions** _____

Where has the work been presented?

Meeting Name _____ USCAP _____

Meeting Date _____ March 2008 _____

Not Previously Presented _____ No _____

Where is this work being published? _____

Journal Name, Volume, Page, Date _____

In Preparation (Y/N) - Where? _____ Yes _____

Author(s) (First & Last) C. Shi, and J. R. Eshleman _____

In-House Address: ___Room 401 Carnegie, resident room _____
(Room # and Building Name, Lab, etc.)

Telephone: 53980 _____ Beeper: ___#4-1163 _____

Fax: _____ E-mail: _cshi3@jhmi.edu _____

***INCLUDE A ONE-PAGE ABSTRACT (including title and all authors) OF THE WORK
YOU WILL BE PRESENTING**

**E-mail COMPLETED Registration form and abstract to:
Stacey Morgan (smorgan9@jhmi.edu) on or before
Friday, March 14th, 2008**

**If you have questions or problems regarding your submission, please
contact Stacey Morgan via e-mail (smorgan9@jhmi.edu)**

(Paste abstract here)

***KRAS2* Gene Mutations in Acinar-Ductal Metaplasia in the Pancreas: Pancreatic Neoplasia May Start Prior to Pancreatic Intraepithelial Neoplasia Lesions**

C. Shi, S.-M. Hong, P. Lim, H. Kamiyama, M. Goggins, R. H. Hruban and J. R. Eshleman

Departments of Pathology, Medicine, and Oncology, The Johns Hopkins Medical Institutions, Baltimore,

MD

Background: Pancreatic intraepithelial neoplasm (PanIN) is a precursor to invasive ductal adenocarcinoma of the pancreas. Mutations in *KRAS2* proto-oncogene are thought to be early events in the development of PanIN lesions. Observations made in genetically engineered mouse models suggest that the acinar/centroacinar compartment can give rise to ductal neoplasia. In order to integrate findings in mice and men, we examined human acinar cells, acinar-ductal metaplasia lesions and PanINs for *KRAS2* gene mutations to determine if *KRAS2* gene mutations occur before the development of PanINs in human pancreata. **Methods:** Surgically resected pancreata were screened for PanIN lesions associated with acinar to ductal metaplasia. PanIN lesions, acinar-ductal metaplasia, and acinar cells from the same lobule, as well as stromal cells were microdissected using laser capture microdissection. Genomic DNA from the microdissected tissues was subjected to nested PCR amplification of *KRAS2* gene followed by PCR DNA sequencing. **Results:** Seventeen sets of lesions from 16 surgically resected pancreata were analyzed. *KRAS2* gene mutations at codon 12 were present in 8 of 17 (47%) PanIN lesions. In 4 of these 8 cases (50%) with *KRAS2* mutations in PanINs, the same *KRAS2* mutation was present in the acinar-ductal metaplasia lesion associated with the PanIN. The remaining acinar-ductal metaplasia lesions, all of the adjacent acinar cells and all control stromal cell samples were *KRAS2* wild type. **Conclusion:** Human pancreatic neoplasia may originate from foci of acinar-ductal metaplasia prior to pancreatic intraepithelial neoplasia lesions.