

# Associated Factors and Survival Implications of Biopsy Diagnosis of Hepatocellular Carcinoma

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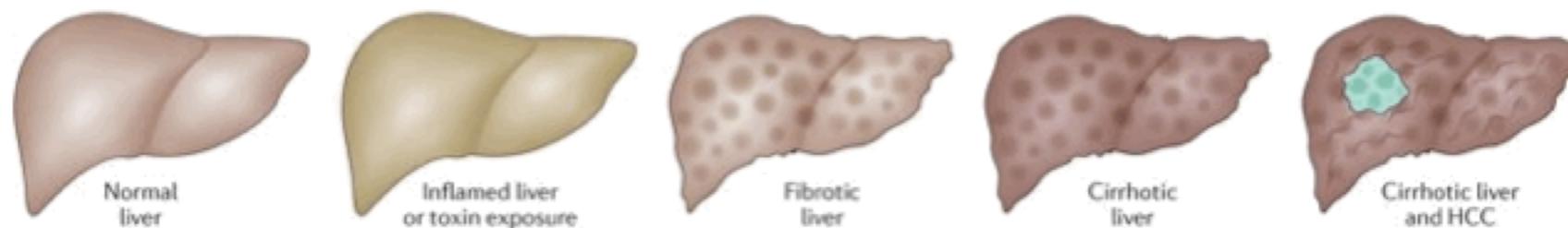
UNIVERSITY OF HAWAII  
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NATIONAL  
CANCER  
DATABASE

**No disclosures**

# Background



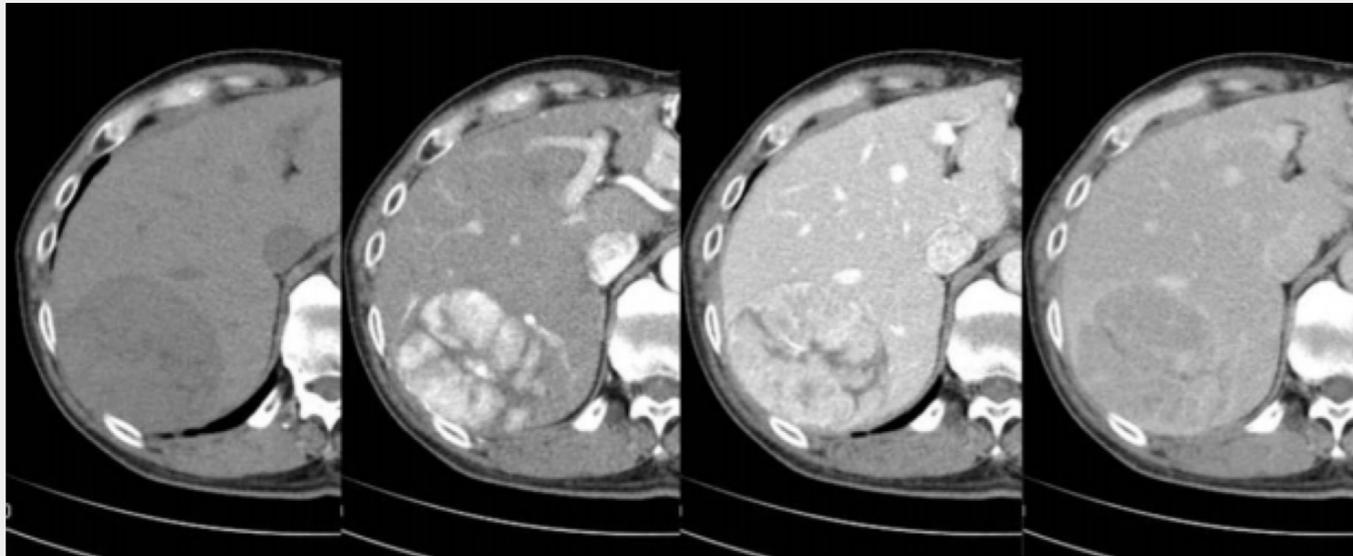
- Hepatocellular carcinoma (HCC) is the 5th most common cancer
- Most common type of primary liver cancer
- Biggest risk factor are liver diseases that lead to cirrhosis
- Third highest cancer-related mortality

*5-year survival rate: 18%*

*5-year survival rate with transplant: 60-70%*



# Diagnosis of HCC



R. Taiji et al. ECR 2013

- Based on imaging with either multi-phasic CT or MRI scan
- Risk of bleeding and seeding
- Biopsy is **only** reserved for specific cases



**Biopsy has theoretical advantages**

*... Confirm histologic subtype*

*... Used to identify novel therapies*

# Objectives

To determine:

- 1) Factors associated with biopsy diagnosis
- 2) Survival implication of diagnostic method

# Methods



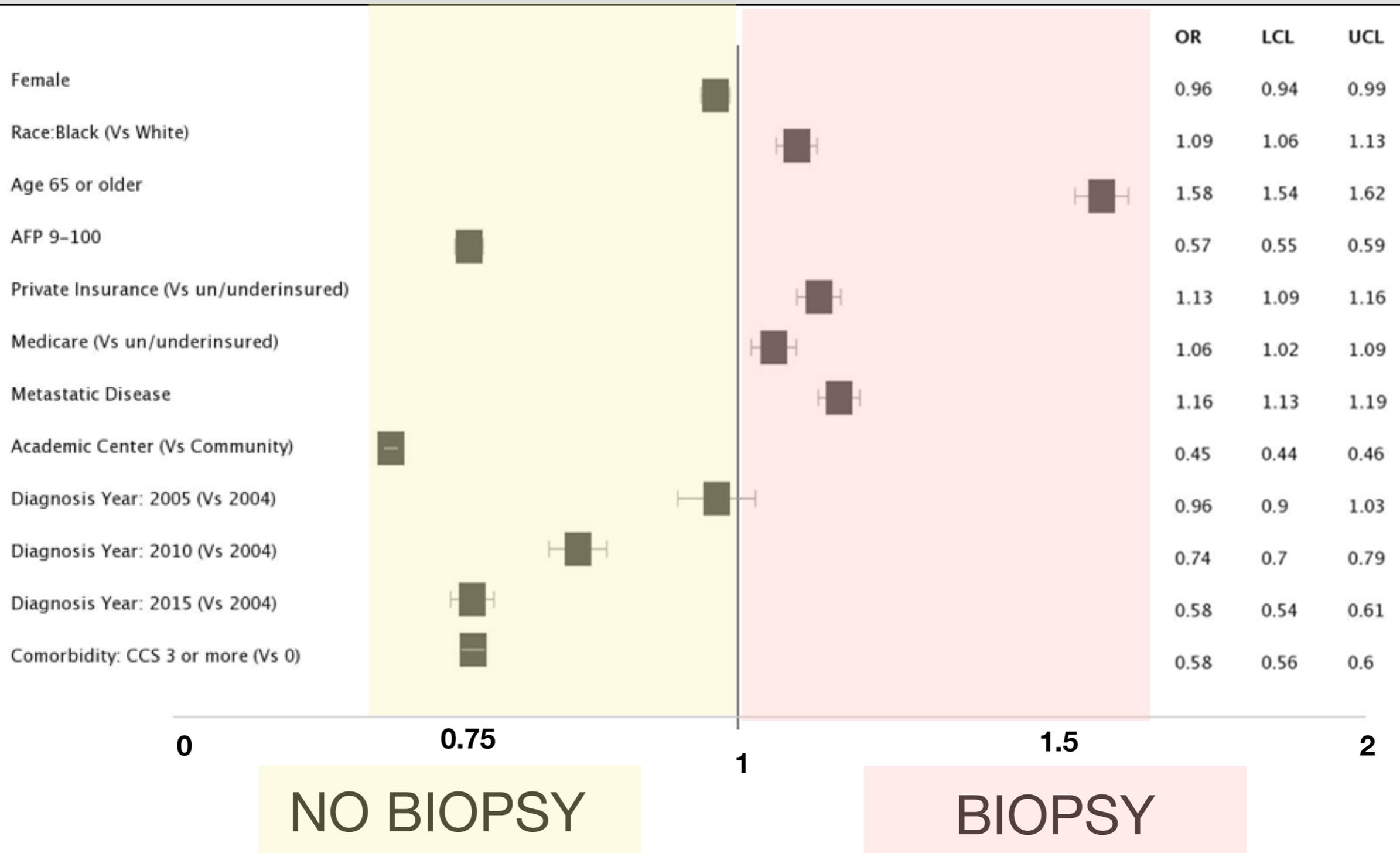
- Demographic, diagnostic, and treatment information obtained
- Logistic regression to determine factors associated with biopsy
- Univariable & Multivariable cox proportional hazards regression models were created to determine impact of diagnostic method and other factors on survival
- Variables included were race, sex, age, comorbidity, facility type (academic vs community), insurance, tumor size, presence of metastatic disease, alpha fetoprotein, total bilirubin, and administration of therapy
- All analysis was performed with SPSS v25

# Study Population

<b>CHARACTERISTICS</b>	
Total included	160, 617
Biopsy	69 232 (43.1%)
Male	118 926 (74.1%)
<b>AGE</b>	
Median	63
Range	40 – 90
<b>TUMOR SIZE</b>	
≤ 2cm	18 612 (11.6%)
<b>DISEASE STAGE</b>	
Metastatic	21 841 (13.6%)

# Results

## Factors Associated With Biopsy Diagnosis



# Survival Analysis

FACTORS	UNIVARIABLE HR (95% CI)	MULTIVARIABLE HR (95% CI)
Black race (vs White)	1.091 (1.073 – 1.109)	1.029 (1.011 – 1.046)
Asians (vs White)	0.759 (0.741 – 0.778)	0.803 (0.783 – 0.823)
Age 65 or older	1.330 (1.314 – 1.346)	1.139 (1.121 – 1.157)
Private insurance	0.547 (0.531 – 0.561)	0.818 (0.804 – 0.833)
Medicare	0.755 (0.733 – 0.777)	0.961 (0.943 – 0.980)
Community Hospital with CCC (vs Community Hospital)	0.757 (0.738 – 0.777)	0.821 (0.809 – 0.832)
Academic Hospital with CCC (vs Community Hospital)	0.419 (0.419 – 0.441)	0.960 (0.940 – 0.980)
Treatment	0.315 (0.311 – 0.318)	0.409 (0.403 – 0.414)
Biopsy	1.400 (1.383-1.417)	1.017 (1.004 – 1.030)

ccc: comprehensive cancer center; CI: confidence interval; HR: hazard ratio

# Discussion

- Largest cohort ever studied
- First to look at factors associated with biopsy and its survival implication
- With advent of new therapies, future implications remain to be seen
- Limitations: retrospective study; miss morbidity

# Conclusion

- Nearly half of the cohort underwent a biopsy
- Imaging ALONE can be adequate to diagnose most cases of HCC

*Biopsy - No impact on survival*

- There are still racial and institutional differences in pattern of care

**Thank you**

**Questions**