

Supplemental online content for:

Diagnostic and Therapeutic Delays in Patients With Hepatocellular Carcinoma

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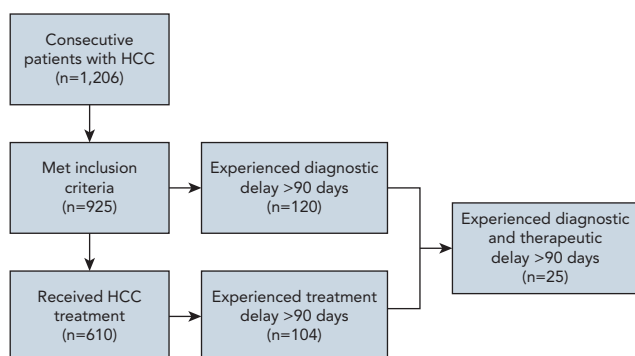
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eFigure 1: Study Flow Diagram

eTable 1: Correlates of Diagnostic Delays

eTable 2: Correlates of Untreated HCC Among Entire Cohort

eTable 3: Correlates of Treatment Delays



eFigure 1. Study flow diagram.

Abbreviation: HCC, hepatocellular carcinoma.

eTable 1. Correlates of Diagnostic Delays		
Variable	Univariate OR (95% CI)	Multivariate (n=908) aOR (95% CI)
Female sex	1.11 (0.71–1.75)	1.12 (0.67–1.87)
Age	0.98 (0.96–0.99)	0.97 (0.95–1.00)
Race/Ethnicity		
White	Ref	Ref
Black	1.02 (0.63–1.64)	0.89 (0.53–1.51)
Hispanic	1.07 (0.65–1.76)	1.04 (0.60–1.80)
Asian	0.49 (0.14–1.66)	0.38 (0.10–1.45)
Health system		
Parkland	Ref	Ref
UT Southwestern	0.44 (0.25–0.77)	0.34 (0.18–0.65)
Insurance status		
Private	Ref	
Medicare	1.44 (0.72–2.88)	
Medicaid	0.90 (0.42–1.91)	
Other/Parkland	1.45 (0.73–2.89)	
Uninsured	1.06 (0.43–2.58)	
Gastroenterology/Hepatology care in year before diagnosis	0.69 (0.24–1.97)	
Presentation type		
Screening imaging	Ref	Ref
Screening AFP	0.94 (0.54–1.64)	1.05 (0.59–1.86)
Incidental	0.72 (0.45–1.14)	0.87 (0.54–1.41)
Symptomatic	0.14 (0.06–0.30)	0.14 (0.07–0.32)
Liver disease etiology		
HCV	Ref	Ref
Alcohol-related	0.87 (0.49–1.54)	0.90 (0.47–1.71)
NAFLD	0.45 (0.20–1.01)	0.61 (0.25–1.50)
HBV	1.79 (0.86–3.75)	2.29 (0.99–5.32)
Other	1.29 (0.48–3.47)	2.59 (0.82–8.18)
Child-Pugh class		
A	Ref	Ref
B	0.82 (0.55–1.24)	0.88 (0.57–1.39)
C	0.34 (0.16–0.72)	0.38 (0.17–0.85)

Abbreviations: AFP, alpha fetoprotein; aOR, adjusted odds ratio; HBV, hepatitis B virus; HCV, hepatitis C virus; NAFLD, nonalcoholic fatty liver disease; OR, odds ratio.

eTable 2. Correlates of Untreated HCC Among Entire Cohort		
Variable	Univariate OR (95% CI)	Multivariate (n=857) aOR (95% CI)
Female sex	0.86 (0.61–1.20)	1.22 (0.77–1.95)
Age	0.99 (0.98–1.01)	1.02 (0.99–1.04)
Race/Ethnicity		
White	Ref	Ref
Black	1.33 (0.95–1.88)	1.04 (0.63–1.70)
Hispanic	1.22 (0.85–1.75)	0.73 (0.44–1.22)
Asian	1.47 (0.76–2.84)	0.98 (0.40–2.40)
Health system		
Parkland	Ref	Ref
UT Southwestern	0.53 (0.38–0.76)	0.55 (0.29–1.04)
Insurance status		
Private	Ref	Ref
Medicare	1.18 (0.71–1.97)	0.93 (0.44–1.94)
Medicaid	1.76 (1.05–2.94)	0.87 (0.38–1.99)
Other/Parkland	1.39 (0.84–2.28)	0.73 (0.32–1.65)
Uninsured	4.49 (2.45–8.22)	2.91 (1.16–7.31)
Gastroenterology/Hepatology care in year before diagnosis	0.31 (0.13–0.74)	0.42 (0.14–1.21)
Presentation type		
Screening	Ref	Ref
Incidental	2.01 (1.33–3.04)	1.34 (0.80–2.25)
Symptomatic	5.10 (3.37–7.74)	1.79 (1.03–3.09)
Liver disease etiology		
HCV	Ref	Ref
Alcohol-related	1.50 (1.02–2.19)	1.13 (0.65–1.94)
NAFLD	0.99 (0.64–1.54)	0.97 (0.49–1.91)
HBV	0.99 (0.52–1.88)	0.74 (0.30–1.82)
Other	0.88 (0.40–1.95)	0.95 (0.33–2.70)
AFP, ng/mL		

(continued)

eTable 2. Correlates of Untreated HCC Among Entire Cohort (cont.)		
Variable	Univariate OR (95% CI)	Multivariate (n=857) aOR (95% CI)
<20	Ref	Ref
20–200	0.80 (0.54–1.20)	0.78 (0.46–1.31)
>200	3.77 (2.73–5.20)	1.89 (1.20–2.98)
Tumor number		
1	Ref	Ref
2	1.14 (0.75–1.74)	1.02 (0.61–1.71)
≥3	1.44 (0.87–2.38)	0.80 (0.42–1.53)
Infiltrative and/or innumerable	5.37 (3.78–7.62)	2.70 (1.62–4.48)
Maximum tumor diameter, cm		
<2	Ref	Ref
2–5	1.05 (0.65–1.70)	0.88 (0.49–1.57)
>5	4.07 (2.54–6.50)	1.85 (0.97–3.51)
Child-Pugh class		
A	Ref	Ref
B	3.03 (2.18–4.23)	3.67 (2.42–5.57)
C	15.92 (0.99–25.39)	23.75 (13.10–43.07)

Abbreviations: AFP, alpha fetoprotein; aOR, adjusted odds ratio; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; HCV, hepatitis C virus; NAFLD, nonalcoholic fatty liver disease; OR, odds ratio.

eTable 3. Correlates of Treatment Delays		
Variable	Univariate OR (95% CI)	Multivariate (n=599) aOR (95% CI)
Female sex	1.31 (0.81–2.12)	1.29 (0.77–2.16)
Age	0.99 (0.97–1.02)	1.00 (0.98–1.03)
Race/Ethnicity		
White	Ref	Ref
Black	0.78 (0.47–1.30)	0.83 (0.46–1.48)
Hispanic	0.82 (0.48–1.39)	0.63 (0.34–1.16)
Asian	0.71 (0.23–2.17)	0.83 (0.25–2.74)
Health system		
Parkland	Ref	Ref
UT Southwestern	0.66 (0.39–1.11)	0.55 (0.30–0.99)
Insurance status		
Private	Ref	
Medicare	1.12 (0.55–2.27)	
Medicaid	1.27 (0.61–2.65)	
Other/Parkland	0.93 (0.46–1.91)	
Uninsured	1.31 (0.47–3.62)	
Gastroenterology/Hepatology care in year before diagnosis	0.64 (0.22–1.86)	
Liver disease etiology		
HCV	Ref	
Alcohol-related	0.85 (0.44–1.65)	
NAFLD	0.83 (0.42–1.65)	
HBV	0.71 (0.24–2.09)	
Other	1.44 (0.51–4.05)	

(continued)

eTable 3. Correlates of Treatment Delays (cont.)		
Variable	Univariate OR (95% CI)	Multivariate (n=599) aOR (95% CI)
AFP, ng/mL		
<20	Ref	Ref
20–200	0.67 (0.41–1.10)	0.73 (0.43–1.23)
>200	0.42 (0.23–0.77)	0.66 (0.34–1.28)
Tumor number		
1	Ref	Ref
2	0.69 (0.38–1.25)	0.68 (0.36–1.27)
≥3	0.72 (0.34–1.54)	0.79 (0.35–1.74)
Infiltrative and/or innumerable	0.28 (0.11–0.72)	0.64 (0.21–1.93)
Maximum tumor diameter, cm		
<2	Ref	Ref
2–5	0.50 (0.31–0.84)	0.56 (0.33–0.95)
>5	0.21 (0.11–0.41)	0.34 (0.15–0.75)
Presence of extrahepatic metastases	0.24 (0.06–1.00)	0.50 (0.11–2.30)
Child-Pugh class		
A	Ref	Ref
B/C	1.44 (0.94–2.20)	1.66 (1.02–2.67)
Presence of diagnostic delay >90 days	1.86 (1.11–3.10)	1.41 (0.82–2.44)

Abbreviations: AFP, alpha fetoprotein; aOR, adjusted odds ratio; HBV, hepatitis B virus; HCV, hepatitis C virus; NAFLD, nonalcoholic fatty liver disease; OR, odds ratio.