



Increasing Frequency of Hepatocellular Carcinoma in HIV-Infected Patients. A Pilot Study in 7 Countries in North & South America and Europe.

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Background

- The incidence of HCC overall has been rising worldwide.
- Cases of HCC in HIV-positive patients have only recently been reported, and their frequency over time is unknown.

Methods

- Retrospective analysis in 31 centers in 7 countries (dark gray on map):

- North America: Canada and United States
- South America: Argentina and Brazil
- Europe: Germany, Spain and United Kingdom



Sites from countries in light gray are awaiting IRB/EC approval

- All HCC cases in HIV-infected patients from 1995-2010 with data on initial presentation.

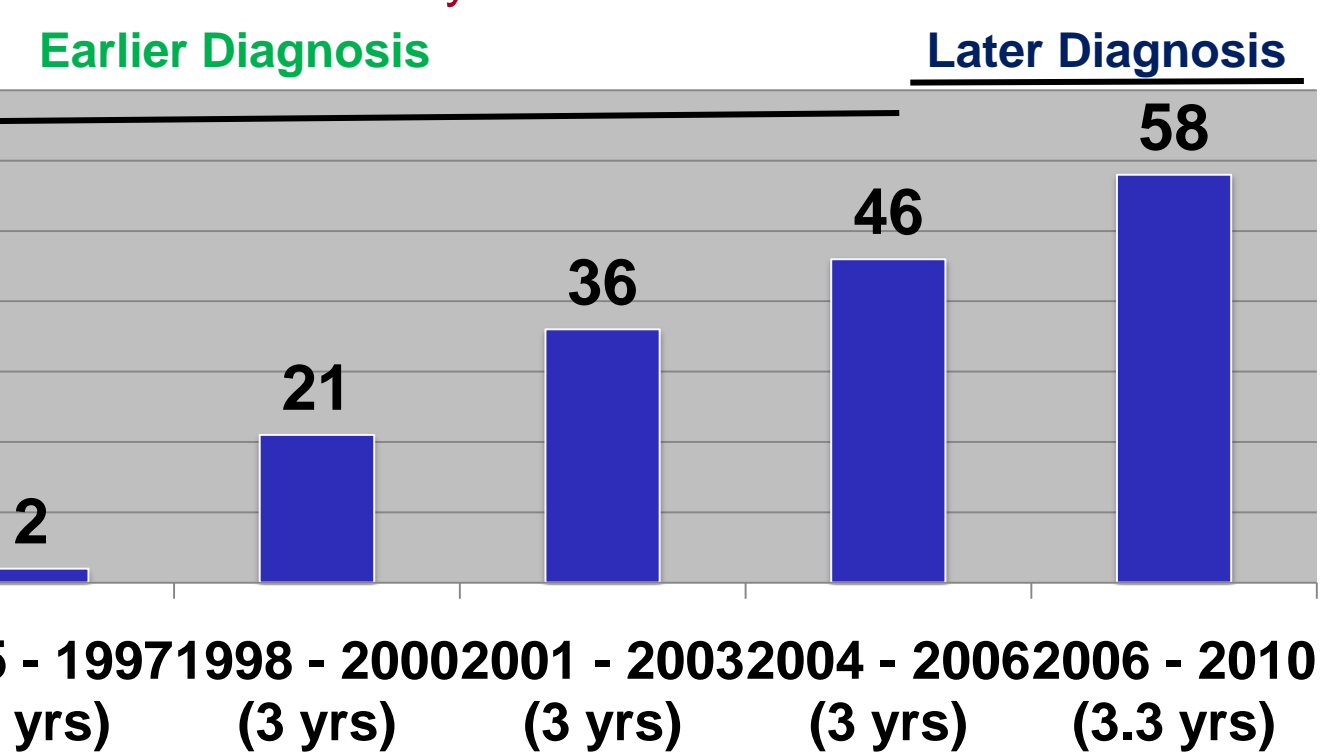
N=163

- Diagnosis by AASLD criteria (Bruix & Sherman, Hepatology, 2005)

- Patients were divided into
Earlier Diagnosis: 1995 – 2004 n=79
Later Diagnosis: 2005 – 2010 n=84

Increasing Frequency

in 3-year intervals



Patient Characteristics

	Diagnosis 1995-2004 n=79	Diagnosis 2005-2010 n=84	P
Age (yrs), Mean ± SD	52 (±8.8)	52.4 (±7.9)	0.65
Male Sex	77 (98%)	77 (92%)	0.105
Race/Ethnicity			0.083
White	32 (41%)	45 (54%)	
Black	31 (39%)	33 (39%)	
Latino	13 (17%)	5 (6%)	
Asian + other	3 (4%)	1 (1%)	
Etiology of HCC			0.78
Chronic Hepatitis C	59 (75%)	61 (73.5%)	
Chronic Hepatitis B	18 (23%)	21 (25%)	
Non-Viral (Alcohol, NASH)	2 (2.5%)	1 (1.2%)	
Excessive Alcohol Consumption	31 (43%)	27 (34%)	0.24
Child-Turcotte-Pugh Score, Mean ± SD	7.0 (±1.89)	6.5 (± 1.60)	0.045
Stage A	39(49%)	51(61%)	0.302
Stage B	31(39%)	25(30%)	
Stage C	9 (11%)	7 (8%)	
Prior HCC Screening	33 (44%)	49 (56%)	0.16
HIV RNA <400 copies/ml	40 (51%)	58 (72%)	0.008
Log10 HIV RNA, mean	2.82	2.25	0.007
CD4+ Cells, Mean (per mcl)	277	357	0.009

HCC Tumor Characteristics

	Diagnosis 1995-2004 n=79	Diagnosis 2005-2010 n=84	P
Hepatic Lesions			0.16
Solitary Tumors	36(46%)	47(57%)	
Multiple Tumors	43(54%)	36(43%)	
Diffusely Infiltrative Tumors			
Median Size Largest Lesion (cm), Range	4.0 (1.8-20)	4.5(0.5-18)	0.883
Portal Vein Thrombosis	12(79%)	19 (83%)	0.213
Extrahepatic Metastases	15(19%)	9 (11%)	0.145
AFP level Median (ng/ml)	602	144	0.026

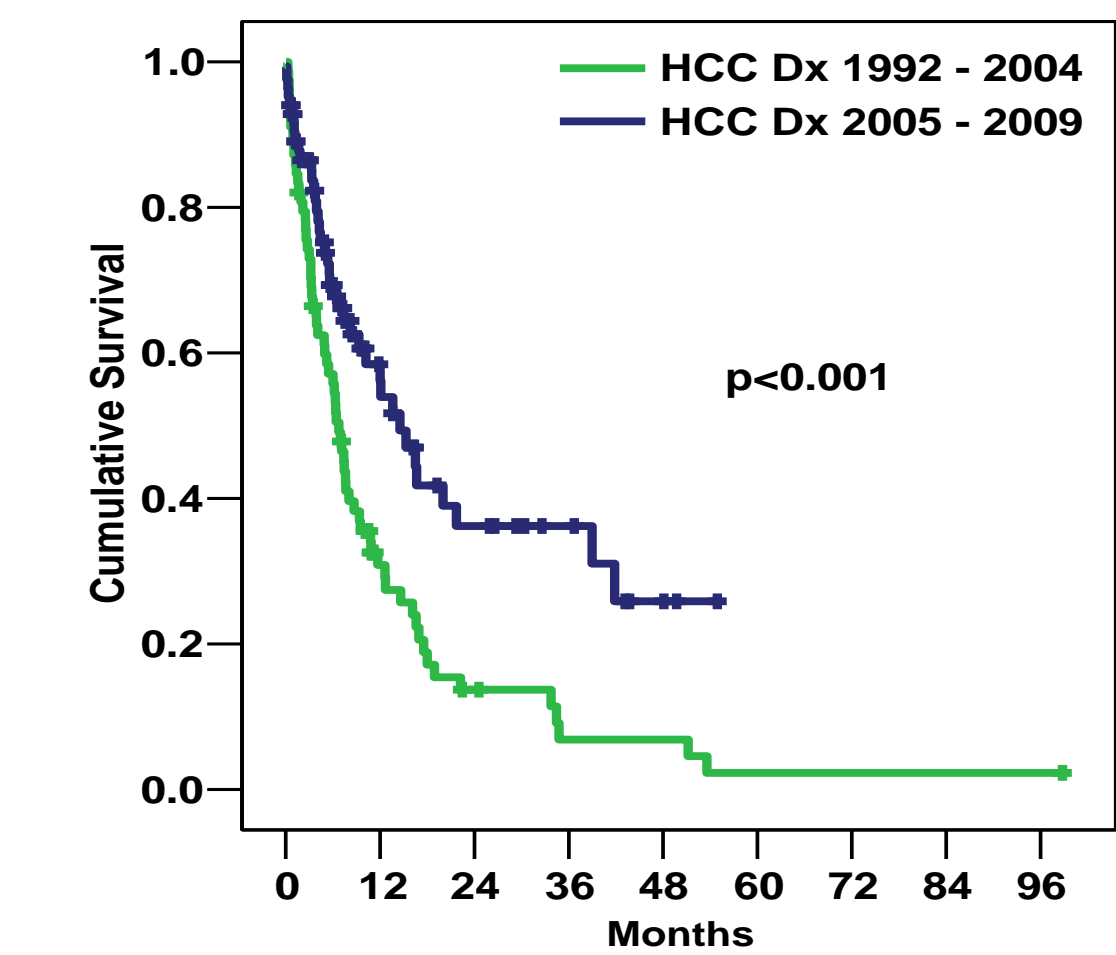
HCC Staging

	Diagnosis 1995-2004 n=79	Diagnosis 2005-2010 n=84	P
BCLC Stage, n (%)			0.57
A	21 (27%)	27 (33%)	
B	17 (22%)	17 (21%)	
C } Advanced	26 (31%)	26 (31%)	
D } Incurable	9 (11%)	13 (16%)	
CLIP Score, Mean ±SD	2.0	1.8	0.38

HCC Therapy

	Diagnosis 1995-2004 n=79	Diagnosis 2005-2010 n=84	P
Potentially Curative Therapy	25 (32%)	24 (29%)	0.16
Radiofrequency Ablation (RFA)	13	9	
Ethanol Injections	8	2	
Surgical Resection	4	10	
Liver Transplantation	0	3	
Effective, Non-Curative Therapy	16 (20%)	28 (33%)	0.16
Transarterial Chemoembolization	16	17	
Sorafenib	0	11	
No Therapy	38 (48%)	32(38%)	

Survival



At Risk:	0	12	24	36	48	60	72	84	96
Diagnosis 1995 – 2004	79	18	7	3	3	1	1	1	1
Diagnosis 2005 – 2010	84	26	13	8	3				

Median survival
 Diagnosis 1995 – 2004 6.8 months
 Diagnosis 2005 – 2010 14.5 months

Summary and Conclusion

- The frequency of HCC in HIV-infected patients is rising in selected countries
- Compared to patients with a diagnosis before 2005, patients diagnosed 2005 or later have
 - better control of HIV RNA levels,
 - higher CD4+ cells,
 - higher CTP scores and
 - lower AFP levels.
 - better survival

To contribute your cases of HCC in HIV patients for further studies, please contact:
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* This abstract is dedicated to **Edmund J. Binihava, MD, MPH (1967 – 2010)** who contributed greatly to this study, and who would have been a co-author

