

Patients with Hepatocellular Carcinoma

M. Sherman¹, L. Kikuchi², E. Palys³, D. E. Kaplan⁴, M. Vogel⁵, E. M. Vispo⁶, J. Daruich⁷, Q. Nazia⁸, E. Page⁹,
N. Merchante¹⁰, R. Mata¹⁰, M. Márquez¹¹, Rafiullah^{12,19}, M. Goetz¹³, D. Rimland¹⁴, M. Núñez¹⁵, P. M. Barreiro¹⁶,
J. A. Pineda¹⁰, H. Klinker¹⁷, S. Mauss¹⁸, J. Rockstroh⁵, M. Nelson⁹, N. Bräu^{12,19}, Liver Cancer in HIV Study Group *

¹University of Toronto, Toronto, ON, Canada, ²Universidade de São Paulo, São Paulo-SP, Brazil, ³Cedars Sinai Medical Center, Los Angeles, CA, USA, ⁴Philadelphia VA Medical Center, Philadelphia, PA, USA, ⁵Universitätsklinikum Bonn, Bonn, Germany, ⁶Hospital Carlos III, Madrid, Spain, ⁷Universidad de Buenos Aires, Buenos Aires, Argentina, ⁸Washington VA Medical Center, Washington, DC, United States, ⁹Chelsea & Westminster Hospital, London, United Kingdom, ¹⁰Hospital Universitario de Valme, Sevilla, ¹¹Hospital Virgen de la Victoria, Malaga, Spain, ¹²Bronx VA Medical Center, Bronx, NY, ¹³VA Greater Los Angeles HCS, Los Angeles, CA, USA, ¹⁴Atlanta VA Medical Center, Atlanta, GA, USA ¹⁵Wake Forest University, Winston-Salem, NC, USA ¹⁶Hospital Carlos III, Madrid, Spain, ¹⁷Universitätsklinikum Würzburg, Würzburg, Germany, ¹⁸Düsseldorf Center for HIV & HepatoGastroenterology, HIV Research, Düsseldorf, Germany, ¹⁹Mount Sinai School of Medicine, New York, NY, USA

Background

- Cases of HCC in HIV-infected patients have been reported with increasing frequency.
- The natural history of HIV/HCV- versus HIV/HBV-coinfected patients with HCC 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=152 total of 155 patients, of whom 3 had non-viral etiology of HCC

- Diagnosis by AASLD criteria (Bruix & Sherman, Hepatology, 2005)
- The 152 patients with viral hepatitis were divided into
 - HIV/HBV-coinfected n= 35 (23%)
 - HIV/HCV-coinfected n= 117 (77%)

Patient Characteristics

| | HIV/HBV n=35 | HIV/HCV n=117 | P |
|---|-----------------|------------------|-------|
| Age (yrs), Mean ± SD | 49.6 (±8.1) | 52.4 (±8.3) | 0.070 |
| Male Sex | 35 (100%) | 108 (92%) | 0.12 |
| Race/Ethnicity | | | 0.12 |
| Black | 9 (25.7%) | 50 (43.5%) | |
| White | 21 (43.5%) | 50 (60.0%) | |
| Latino | 4 (11.4%) | 14 (12.2%) | |
| Asian + other | 1 (2.9%) | 1 (0.9%) | |
| Time of HCC Diagnosis | | | 0.47 |
| Date, Median | Jul-2004 | Jan-2005 | |
| Alcohol Consumption | | | 0.31 |
| None | 11 (35%) | 31 (28%) | |
| Moderate | 12 (39%) | 34 (31%) | |
| Excessive | 8 (26%) | 45 (41%) | |
| Liver Function | | | 0.43 |
| Child-Pugh Score, Mean ± SD | 6.6 | 6.9 | |
| Stage A | 19 (56%) | 62 (53%) | 0.60 |
| Stage B | 13 (38%) | 41 (35%) | |
| Stage C | 2 (6%) | 14 (12%) | |
| Initial Presentation | | | 0.64 |
| Screening Without Symptoms (AFP, Imaging) | 19 (56%) | 60 (51%) | |
| Symptoms | 15 (44%) | 57 (49%) | |
| HIV parameters | | | 0.28 |
| Log ₁₀ HIV RNA Level, Mean | 2.33 | 2.63 | |
| HIV RNA <400 copies/ml, n (%) | 22 (67%) | 69 (60%) | 0.46 |
| CD4+ Cells (per mm ³), Mean | 332 | 344 | 0.79 |
| CD4+ Cells ≥200/mm ³ , n (%) | 21 (64%) | 81 (70%) | 0.46 |

HCC Tumor Characteristics

| | HIV/HBV n=35 | HIV/HCV n=117 | P |
|--|-----------------|------------------|-------|
| Hepatic Lesions | | | 0.25 |
| Solitary Tumors | 16 (47%) | 60 (51%) | |
| Multiple tumors | 13 (38%) | 50 (43%) | |
| Diffusely Infiltrative Tumors | 5 (15%) | 7 (6%) | |
| Median Size Largest Lesion (cm), Range | 5.6 (0.5 – 20) | 4.0 (1.2 – 16) | 0.050 |
| Portal Vein Thrombosis | 9 (27%) | 20 (17%) | 0.22 |
| Extrahepatic Metastases | 4 (12%) | 17 (15%) | 0.79 |
| AFP level | | | 0.036 |
| Median (ng/ml) | 1049 | 199 | |
| Normal (≤ ULN), n (%) | 4 (13.3%) | 15 (13.6%) | 1.00 |

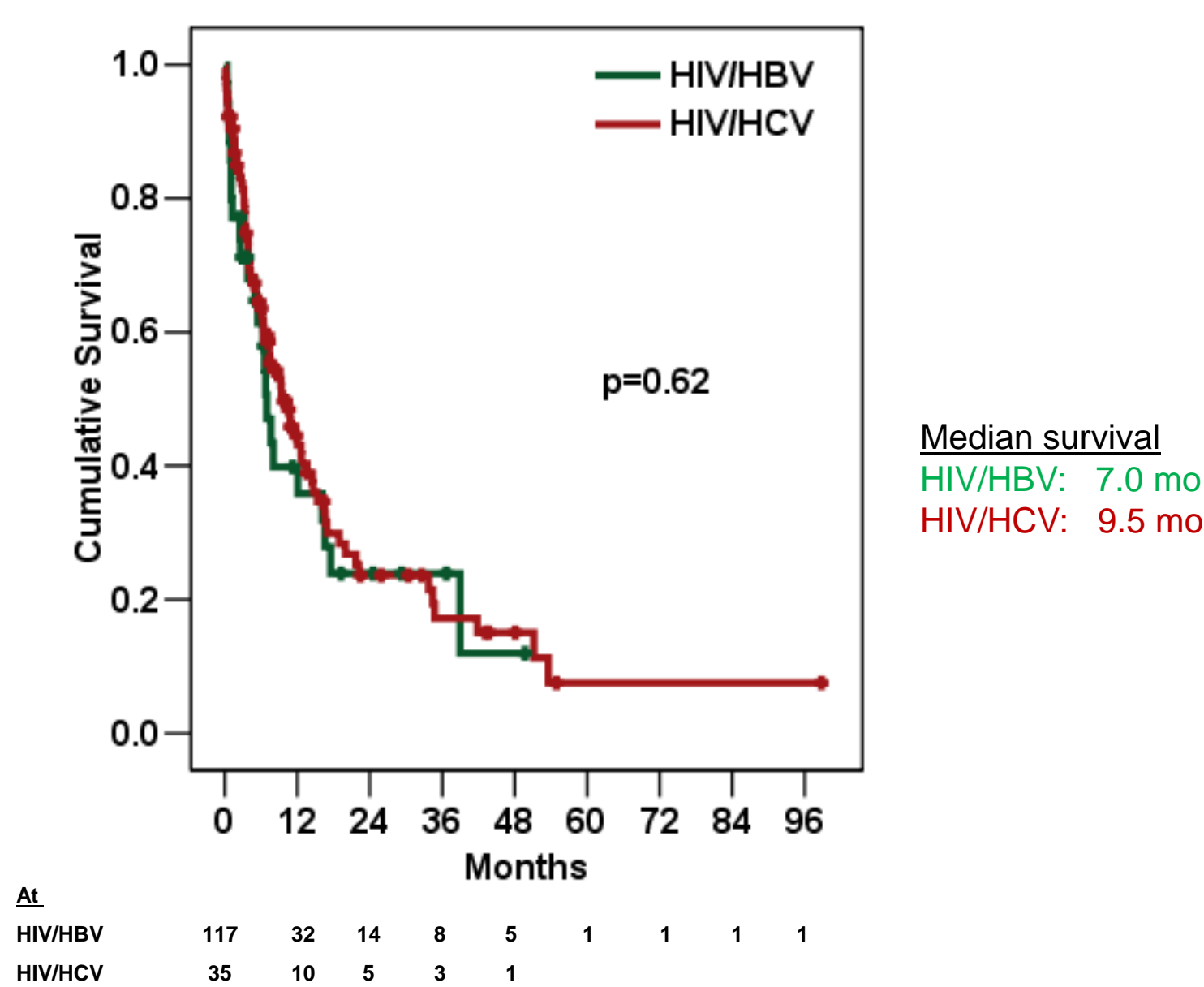
HCC Staging

| | HIV/HBV n=35 | HIV/HCV n=117 | P |
|----------------------|-----------------|------------------|------|
| BCLC Stage, n (%) | | | |
| A | 9 (27%) | 34 (29%) | 0.92 |
| B | 8 (24%) | 25 (21%) | |
| C } Advanced, | 13 (38%) | 40 (34%) | |
| D } Incurable | 4 (12%) | 18 (15%) | |
| BCLC Stages C and D | 17 (50%) | 58 (50%) | 0.97 |
| CLIP Score, Mean ±SD | 2.09 | 1.89 | 0.49 |

HCC Therapy

| | HIV/HBV n=35 | HIV/HCV n=117 | P |
|---------------------------------|-----------------|------------------|------|
| Potentially Curative Therapy | 10 (29%) | 35 (30%) | 0.95 |
| Radiofrequency Ablation (RFA) | 3 | 18 | |
| Ethanol Injections | 2 | 8 | |
| Surgical Resection | 4 | 8 | |
| Liver Transplantation | 1 | 1 | |
| Effective, Non-Curative Therapy | 9 (26%) | 32 (27%) | |
| Transarterial Chemoembolization | 8 | 28 | |
| Sorafenib | 1 | 4 | |
| No Therapy | 16 (46%) | 50 (43%) | |

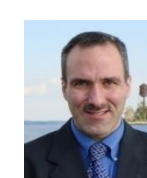
Survival



Summary and Conclusion

- HIV/HBV patients with HCC tend to be younger than HIV/HCV patients.
- HIV/HBV patients with HCC present with larger tumors and higher AFP levels than HIV/HCV patients.
- A Bonferroni adjustment for multiple comparisons was not performed in this study, hence the few differences seen may not be significant.
- Staging, therapy and survival are similar between the two groups.
- Overall, HIV/HBV and HIV/HCV patients with HCC had similar characteristics

* This abstract is dedicated to Edmund J. Bini, MD, MPH (1967 – 2010) who contributed greatly to this study, and who would have been a co-author



To contribute your cases of HCC in HIV patients for further studies, please contact: Norbert Bräu norbert.brau@va.gov Tel: (+1) 917-701-3867 or visit us at www.HCCinHIV.org