Morbidity and mortality in HIV infected patients with compensated and decompensated cirrhosis: prospective cohort of 373 patients

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BACKGROUND

- It is likely that the importance of liver cirrhosis as a cause of morbidity and mortality in HIV-infected patients would increase even more in the near future.

- There are limited data from cohort studies about the natural history of HIV-infected patients with compensated and decompensated liver cirrhosis.

OBJECTIVE

- To evaluate morbidity/mortality in HIV-infected patients with compensated vs decompensated liver cirrhosis.

STUDY DESIGN (1)

- Multicenter national prospective cohort.
  - País Vasco
    - H. Virgen de Aranzazu.
  - Valencia
    - H. General Universitario Valencia.
  - Barcelona
    - H. Clinic y Provincial.
    - H. Germans Trias i Pujol.
  - Madrid
    - H. Príncipe de Asturias.
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    - H. Ramón y Cajal.
    - H. Doce de Octubre.
    - H. La Paz.

STUDY DESIGN (2)

- Cirrhosis Diagnosis
  - Biopsy: (Cirrhosis or advanced bridging fibrosis).
  - Decompensation
    - Gastrointestinal bleeding, ascites, hepatic encephalopathy.
  - Bonacini Score > 8 (Am J Gastroenterol 1997;92:1302).

BONACINI SCORE FOR LIVER CIRRHOSIS DIAGNOSIS

- Three-parameter cirrhosis discriminant score:
  - Platelets – ALT/AST ratio – PT
  - Cutoff for cirrhosis diagnosis = 8

- Sensibility 46%
- Specifycity 98%

Bonacini M, et al. Am J Gastroenterol 1997;92:1302.

STUDY DESIGN (3)

- Total planned follow-up 48 months.
- Visits: baseline and then every 6 months.
  - Each visit:
    - Personal interview.
    - Hematology, Biochemistry, Inmmunology, Virology, alfa-fetoprotein.
    - Abdominal US.
  - Each year:
    - Endoscopy to detect esophageal varices (according to Schepis criteria*).

Schepis et al. Hepatology 2001; 33:471-2.

STUDY DESIGN (4)

- SURVIVAL: time from the date of entry until any endpoint occurred.
- ENDPOINT: death, hepatocarcinoma or liver transplant.
- STATISTICAL ANALISYS: Kaplan-Meyer (survival curves), log rank test (comparison of survival between different groups).

BASELINE CHARACTERISITICS (1)

	All	Compensated	Decompensated
N	373	274	99
Mean age (years)	44	44	43
Female (%)	80 (22)	61 (22,2)	19 (19,4)
Cirrhosis diagnosis			
- Biopsy (%)	234 (63)	234 (85,1)	0
- Bonacini Score >8 (%)	41 (11)	14 (14,9)	0
- Prior decompensation (%)	98 (26)	0	98 (100)
Cirrhosis causes			
- Hepatitis C (%)	370 (99,2)	274 (99,7)	96 (97,9)
-Genotypes 2 or 3 (%)	81 (21,7)	63 (22,9)	18 (18,4)
- Hepatitis B (%)	24 (6,4)	17 (6,2)	7 (7,1)
- Prior alcohol abuse (%)	115 (31)	74 (26,9)	41 (41,8)
Median duration HIV infection (years)	15	15	15

BASELINE CHARACTERISITICS (2)

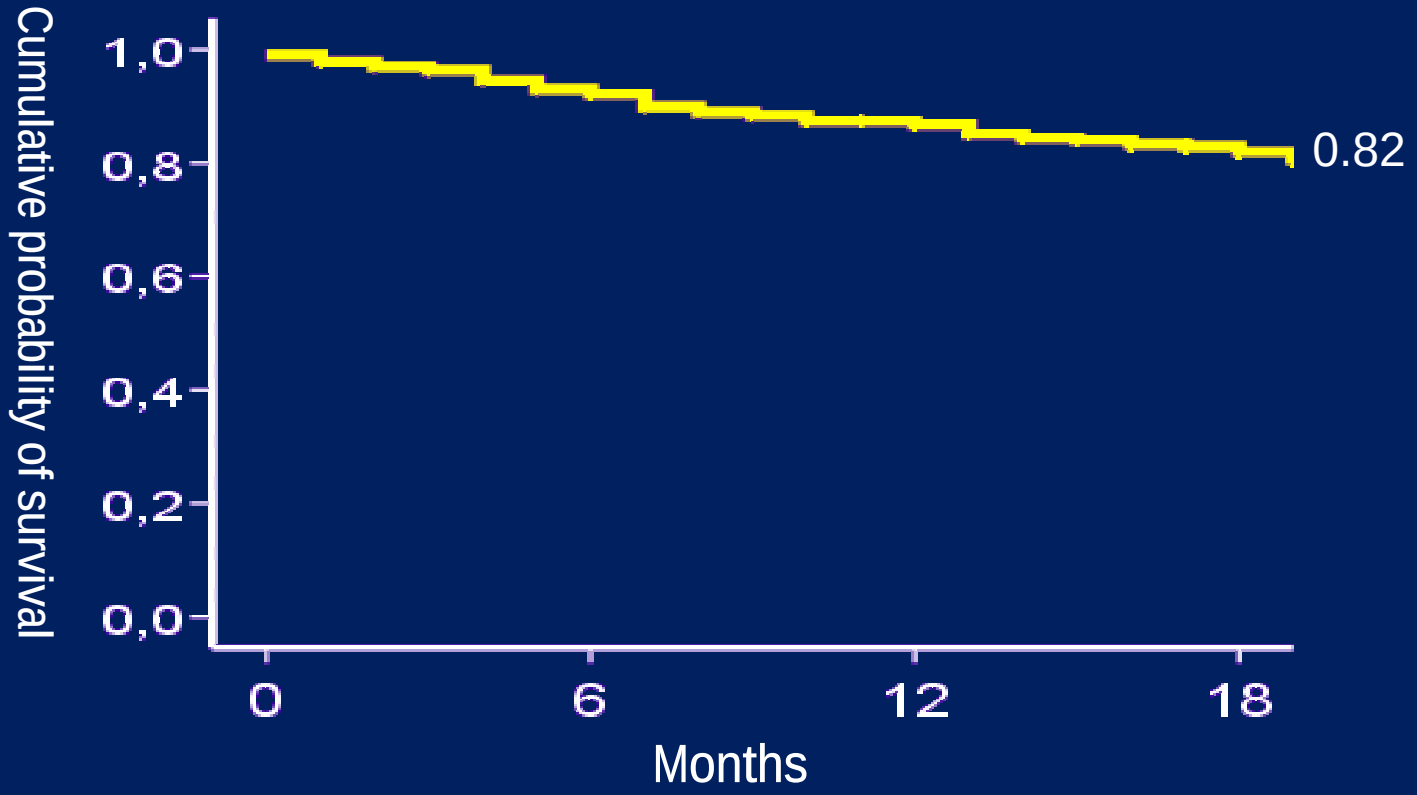
	All	Compensated	Decompensated
Median duration HVC infection (years)	23	23	23
HCV treatment received (%)	205 (55)	178 (64,7)	27 (27,6)
CDC stage C (%)	143 (39,3)	90 (32,8)	53 (54,1)
Receiving HAART at baseline (%)	322 (82,8)	244 (88,7)	78 (79,6)
HIV Transmission route			
- IVDU (%)	328 (88)	239 (86,9)	89 (90,8)
CD4 cell count (median, IQR)			
-Baseline	373 (228 - 577)	434 (272 - 644)	239 (140 - 365)
-Nadir	145 (70 - 255)	175 (76 - 270)	104 (58 - 180)
-HIV-RNA			
-Baseline (median, IQR)	49 (49 - 398)	49 (49 - 200)	49 (49 - 1229)
-% HIV RNA BLQ*	72,4	75,6	65,2

*Below limit of quantification (50-200) c/ml.

RESULTS

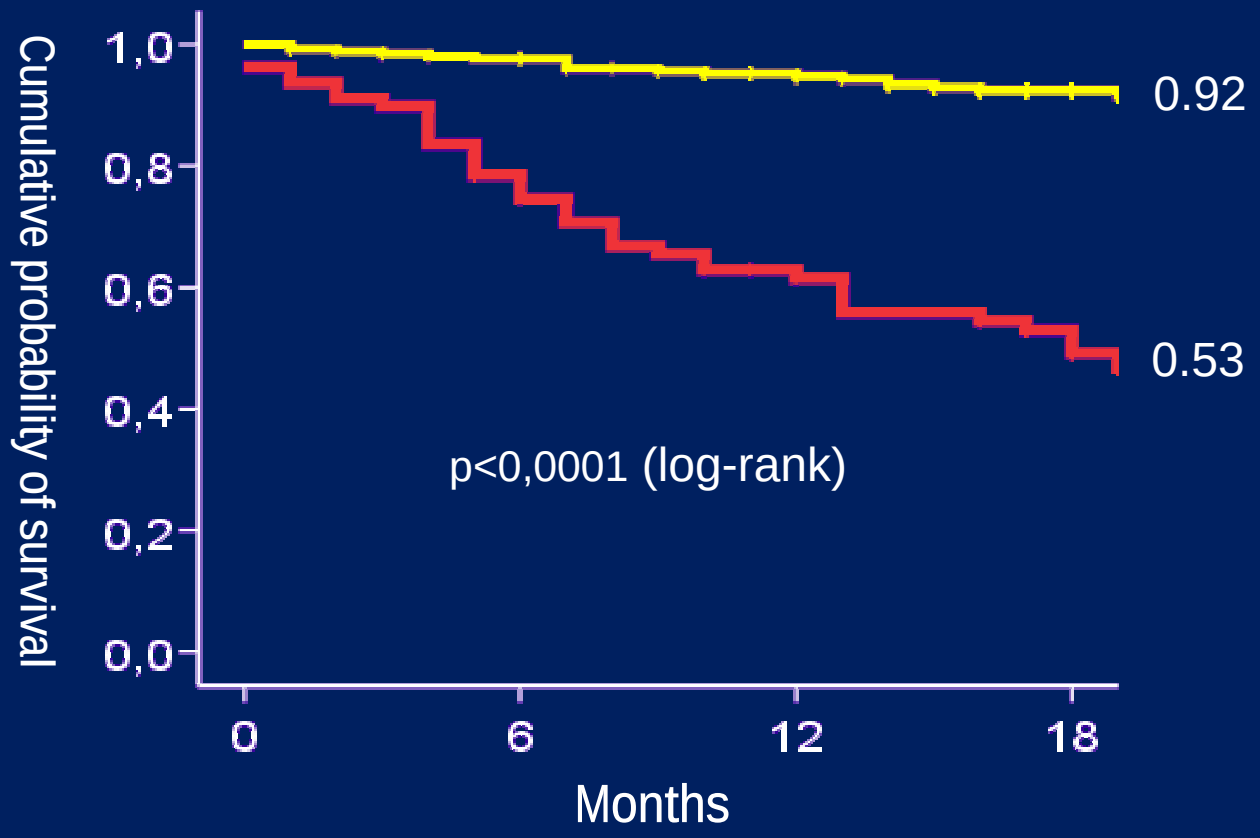
	All	Compensated	Descompensated
Lost to follow-up (%)	40 (10,7)	21 (7,6)	19 (19,4)
Follow-up (median, IQR)	18 (14-20)	18 (15,7-20,2)	16 (6-19)
Endpoints, n (%)			
Any	63 (18,9)	20 (7,9)	43 (54,4)
Death	55 (16,5)	17 (6,7)	38 (48,1)
Hepatocarcinoma	2 (0,6)	0	2 (2,5)
Transplant	9 (2,7)	3 (1,2)	6 (7,6)
Deaths, n (%)			
Hepatic causes	33 (9,9)	6 (2,4)	27 (34,2)
Other	14 (1,8)	6 (2,4)	8 (10,1)
Unknown	6 (1,8)	5 (2)	1 (1,3)

SURVIVAL



N	332	302	264	169

SURVIVAL
Compensated vs Decompensated

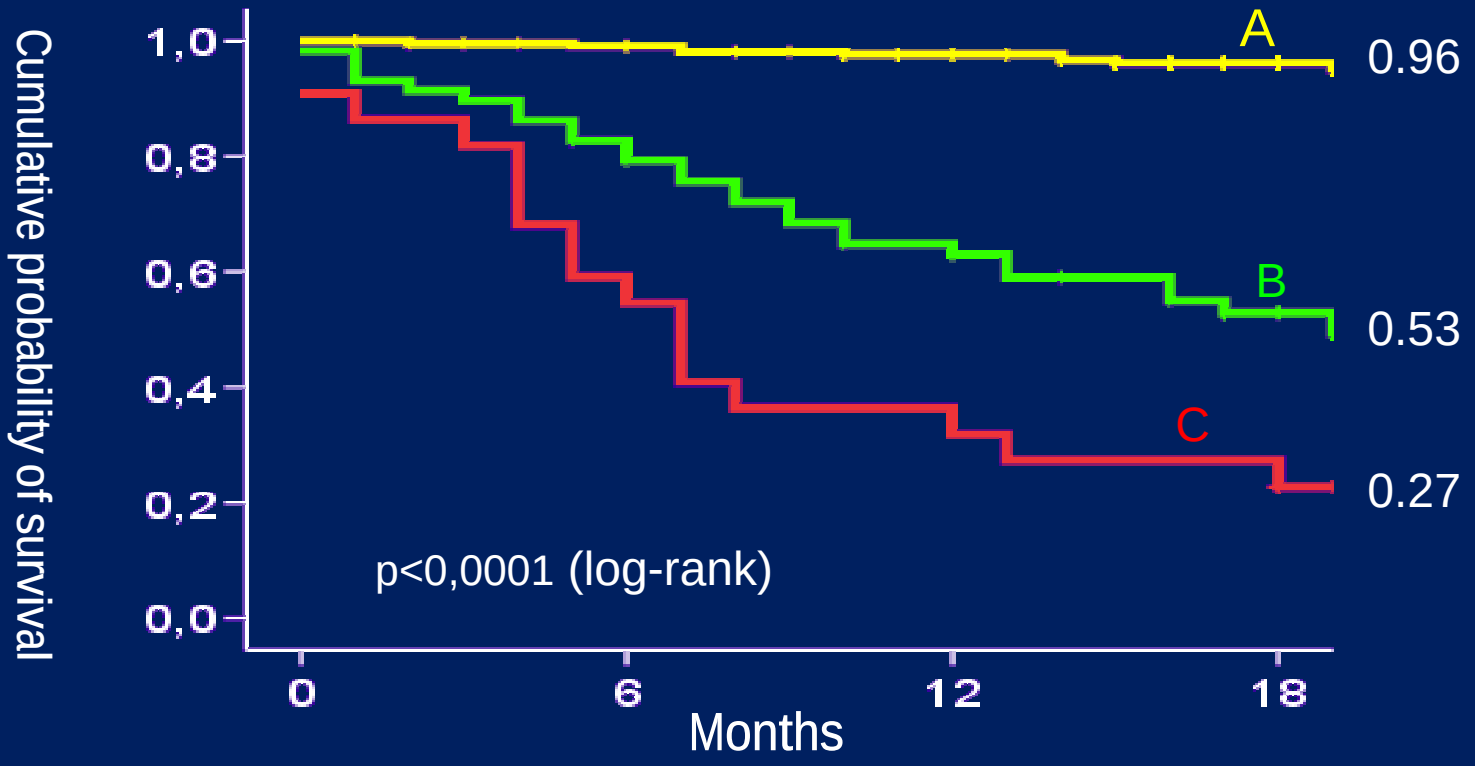


Compensated	**253**	**241**	**218**	**141**
Decompensated	**78**	**60**	**45**	**27**

SURVIVAL (months)

	COMPENSATED	DECOMPENSATED
Mean (IC95%)	66 (63-69)	19 (15-23)
Median (IC95%)	NA	18 (12-24)
1 year probability	0.95	0.63
2 years probability	0.90	0.32
3 years probability	0.90	0

SURVIVAL
Child Pugh Score



CP-A	219	213	196	128
CP-B	57	46	34	17
CP-C	21	12	7	5

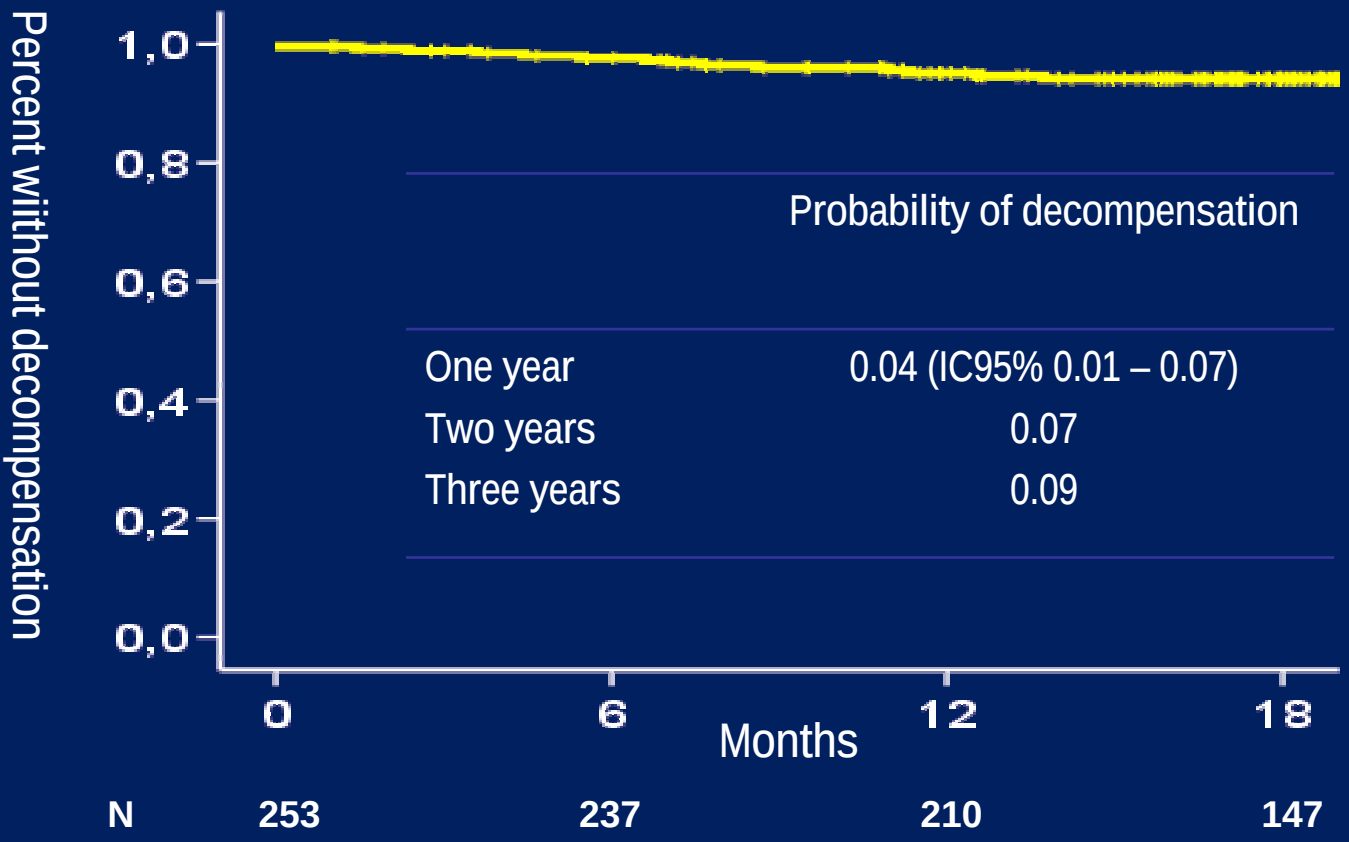
SURVIVAL (months)

	CHILD-PUGH SCORE		
	A	B	C
Mean (IC95%)	68 (65-70)	22 (18-26)	10 (6-13)
Median (IC95%)	NA	19 (13-25)	1 (5-9)
1 year probability	0.98	0.65	0.32
2 years probability	0.92	0.49	0
3 years probability	0.92	0	0

Decompensations in patients with compensated cirrhosis

Any. n (%)	17 (6,2)
Ascites	6 (2,2)
GI bleeding	2 (0,7)
Encephalopathy	7 (2,6)
HRS	2 (0,7)

PROBABILITY OF FIRST DECOMPENSATION



CONCLUSIONS

- HIV-infected patients with compensated liver cirrhosis had a relatively high survival with a low per year probability of first decompensation.
- HIV-infected patients with decompensated cirrhosis have a very poor prognosis. One third of our patients with decompensated liver cirrhosis died during the first year of follow-up.
- Child Pugh score apears as a good prognostic score for HIV-infected patients with liver cirrhosis.
- These results emphasize the critical importance of avoiding the development of end-stage liver disease in HIV-infected patients.
- Analysis of factors associated to survival will be available soon

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