

HIV and HBV/HCV coinfection and liver transplantation:

Results

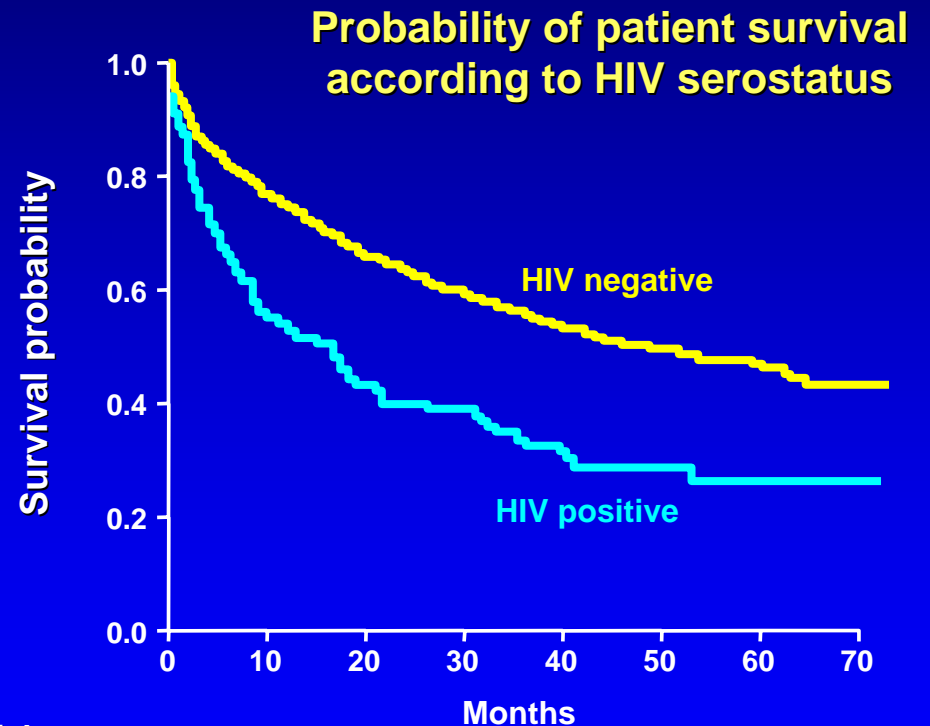
Jean-Charles Duclos-Vallée

**CENTRE HEPATO-BILIAIRE
HÔPITAL PAUL BROUSSE
VILLEJUIF**

HIV Coinfection Shortens the Survival of Patients with HCV Decompensated Cirrhosis

Survival	1-year	2-year	5-year
HIV+	54%	40%	25%
HIV-	74%	61%	44%

Median survival = 16 months



N° at risk

HIV negative	1037	619	429	313	208	133	62	9
HIV positive	180	75	46	30	19	11	5	3

Liver Transplantation in Adults Coinfected with HIV under HAART *Preliminary Experience*

Prachalias et al. Transplantation 2001

Patients	Diagnosis	Outcome Post LT
1	HCV	Died (25 months)
2	HCV	Died (15 months)
3	HCV	Died (6 months)
4	HBV	Alive (24 months)
5	NANB	Alive (4 months)

LIVER TRANSPLANTATION IN HIV-HCV PATIENTS *Pittsburgh and Miami (1997-2001)*

Patient	OLT date	Outcome	Cause
6	May 2001	Alive	
7	Sept 1997	Alive	
8	Dec 1998	Alive	
9	Jan 1999	Died (12 days)	Acute CR
10	Mar1999	Died (570 days)	CR/HCV
12	Oct 2000	Alive	
13	Jan 2001	Alive	
14	Oct 2001	Alive	
15	Nov 2001	Alive	

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PRETRANSPLANT INCLUSION AND EXCLUSION CRITERIA

Inclusion:

HIV viral load -
Limited or no opportunistic
complications
CD4+ > 250/mL for the past 6 months
History of compliance with medical
protocol

Exclusion:

Ongoing opportunistic infection or
cancer
History of any neoplasm except
hepatocellular carcinoma

Paul Brousse Experience

November 2000 - October 2005

n = 41 patients transplanted

**HCV
Cirrhosis
n=34
(HCC: n=3)**

Fulminant Hepatitis: n=1

**HBV Cirrhosis
n=6
(Delta coinfection: n=2)
(HCC: n=1)**

Paul Brousse Experience
November 2000 - October 2005

n = 41 patients transplanted

8 patients died

HCV recurrence and mitochondrial toxicity: n=5

Acute pancreatitis: n=1

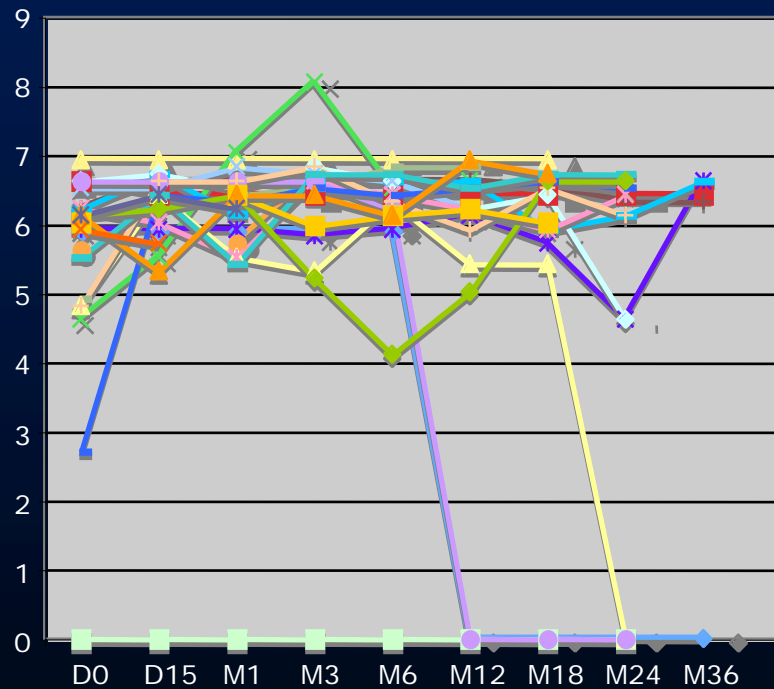
Pancreatic adenocarcinoma: n=1

Cerebral hemorrhage: n=1

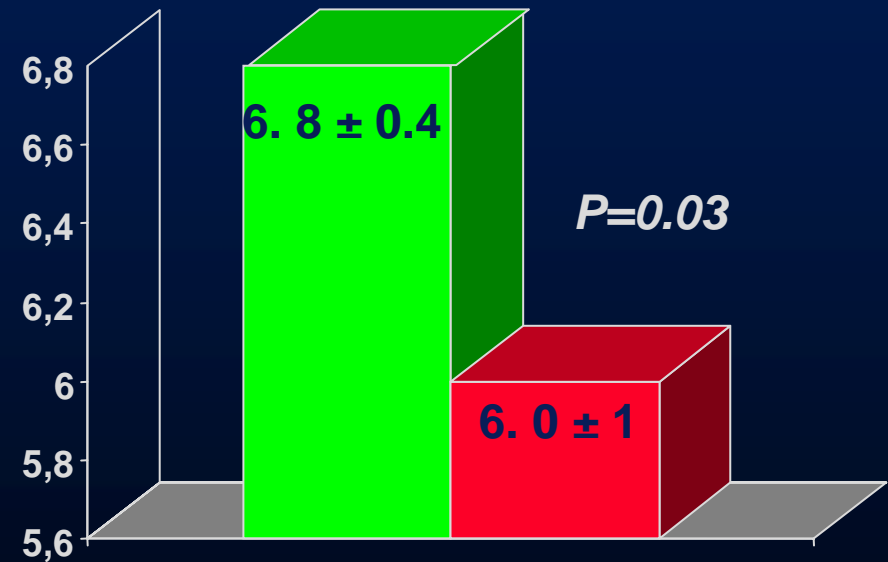
HCV viral recurrence

HCV viral load

HCV RNA
log₁₀



post LT

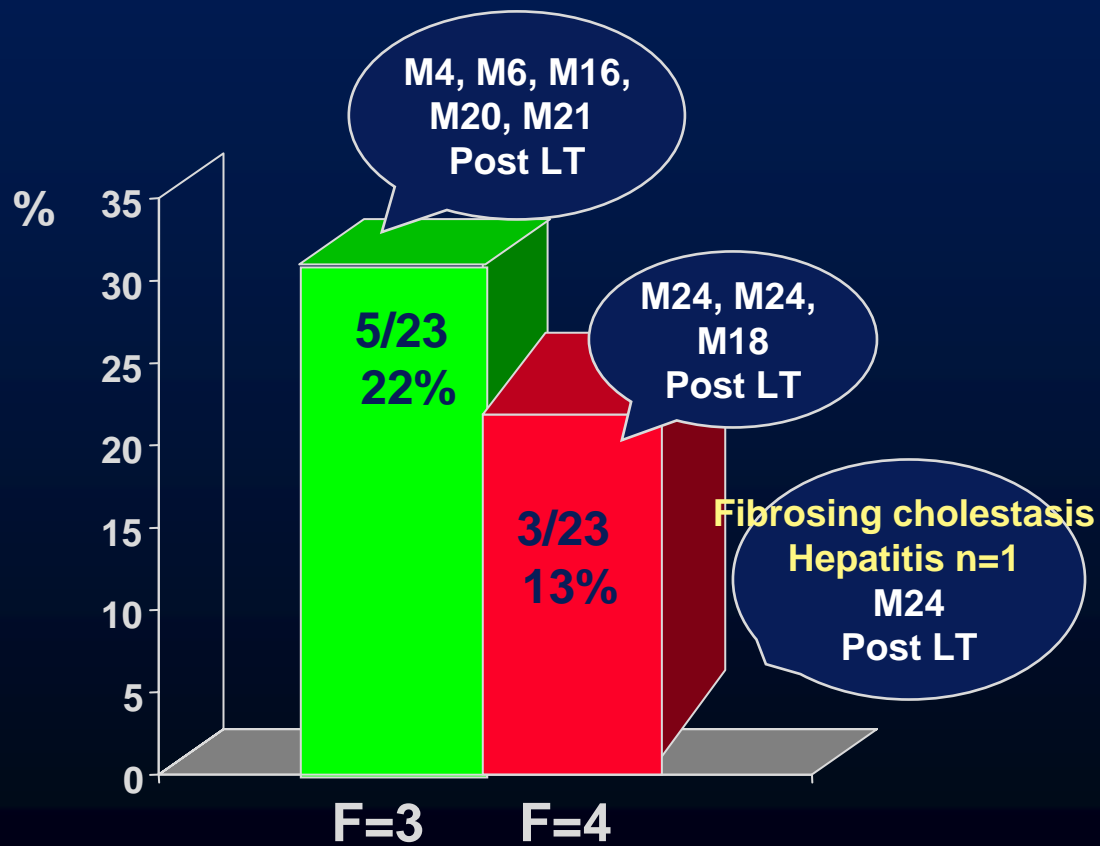


Viral load at 6 months

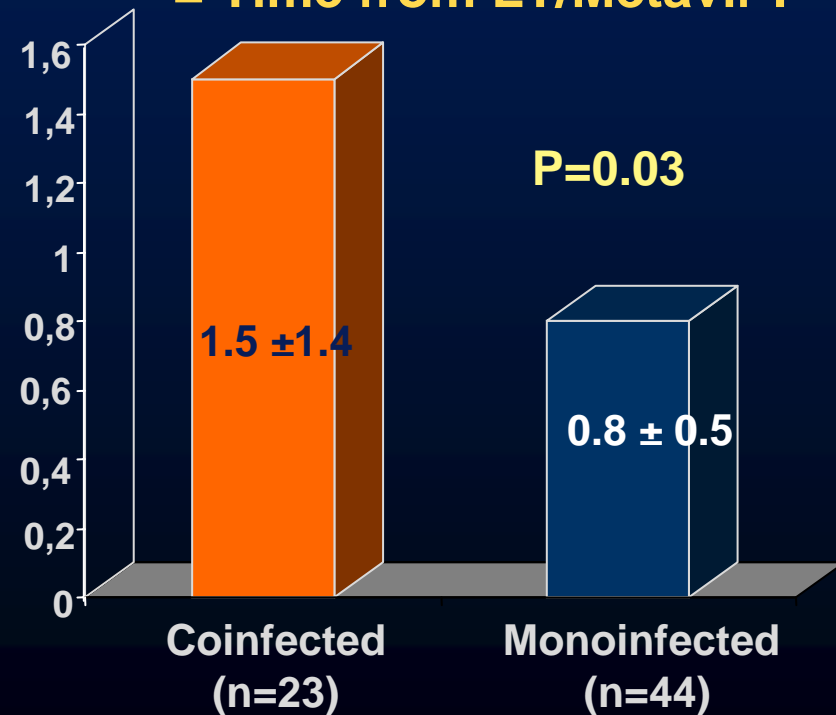
■ Co-infected
■ Monoinfected

HCV viral recurrence Severity of fibrosis January 1999 - June 2004

***n* = 23 HIV/HCV +**



**Rate of Fibrosis between M12 and M16
= Time from LT/Metavir F**

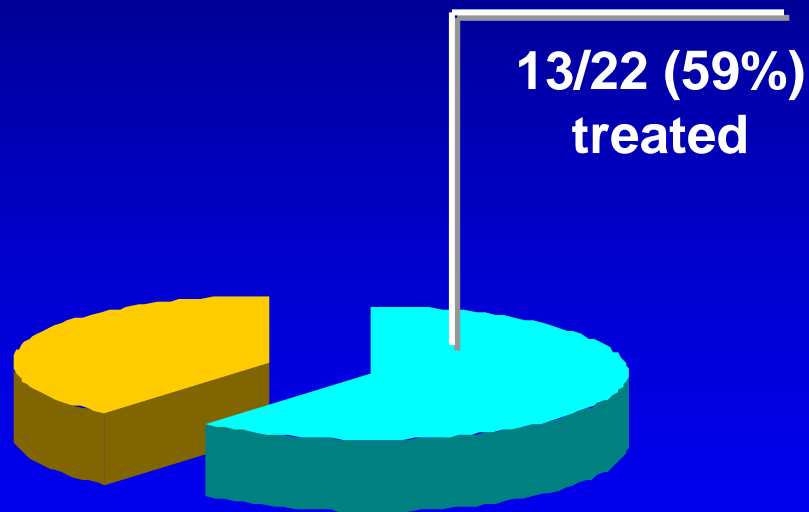


HCV viral recurrence

Effect of Antiviral Therapy

	Co-infected patients	Monoinfected patients
<i>Pegylated interferon a 2-b + ribavirin</i>	13/22 (59 %)	14/44 (32 %)
<i>Virological response</i>	3/13 (23%)	10/14 (71%)

Secondary effect of anti-HCV therapy



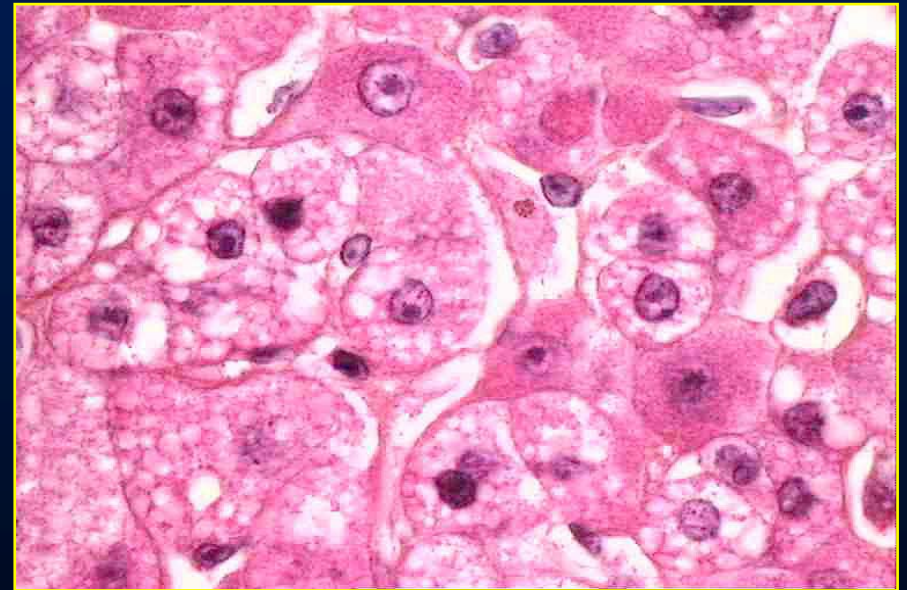
Anti HCV therapy was stopped in 5 patients

- Pancreatitis : n = 1
- Lethal lactic acidosis : n = 1
- Intense Asthenia : n = 3

Mitochondrial toxicity

Microvesicular steatosis

Microvesicular steatosis
range (10%-50%)
observed
in 8/19 (42%) patients



Mitochondrial toxicity

Comparison of Liver mtDNA

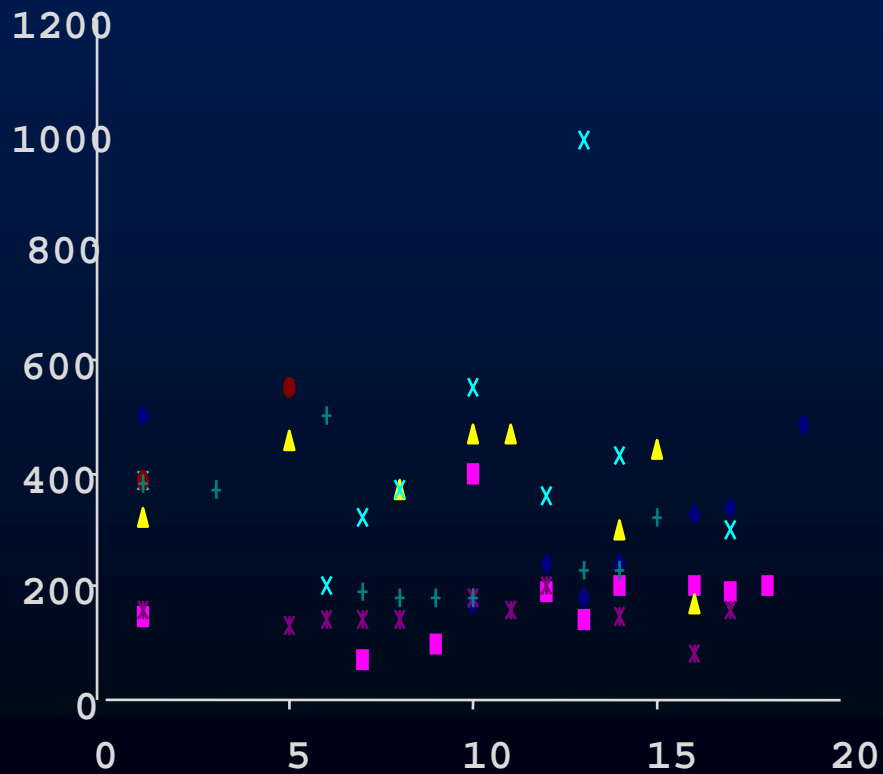
in HIV+/HCV+ Patients and HIV Negative Controls

Patients	Liver mt DNA (copies number/ng total DNA)	IV complex Activity
HIV+/HCV+ (n=5)	26 511 (5817-143010)	0<<4 nmol/min/mg
HIV-/HCV+ (1 year post LT) (n=8)	19 5235 (203207-611111) <i>p=0.01</i>	In 6/7 patients studied

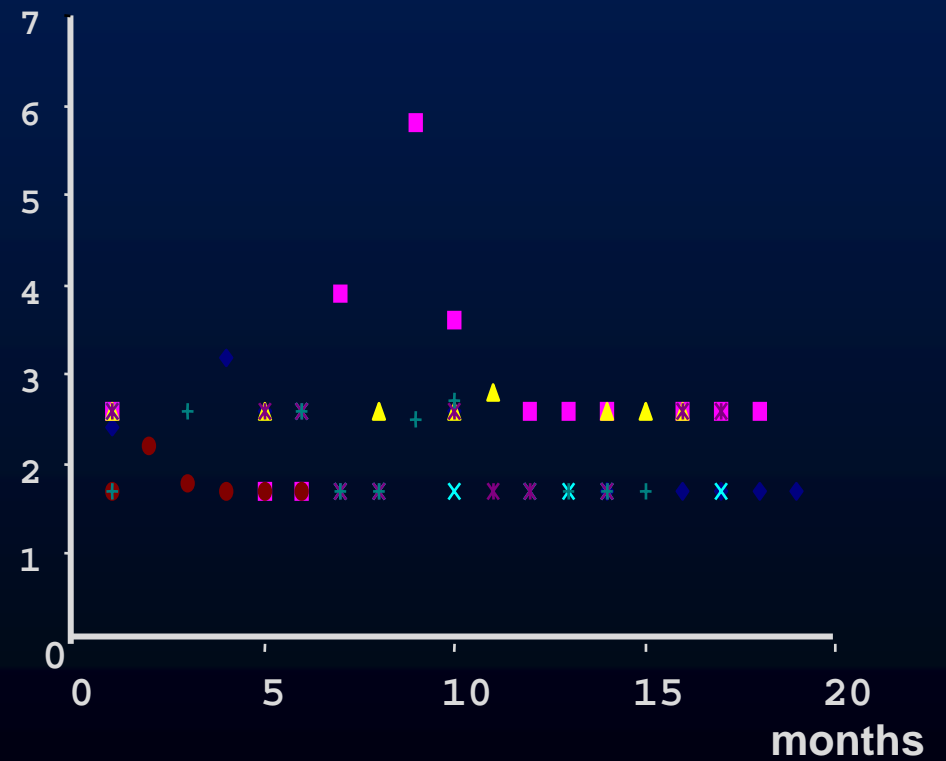
Duclos-Vallee J Hepatol 2005

CD4 Count and HIV viral load During the Post-LT Course n=7

Cells/mm³



Log 10

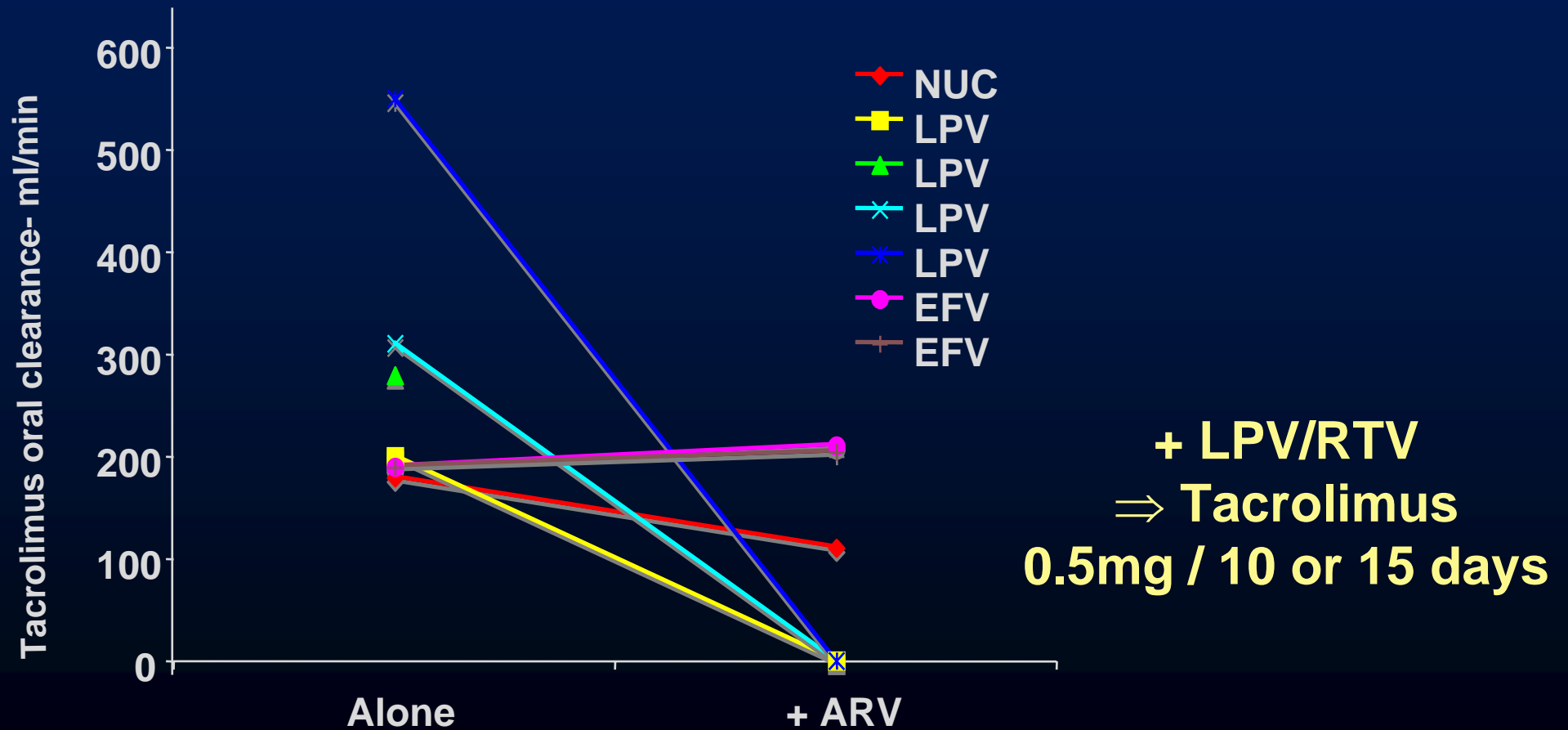


Bacterial and opportunistic infections

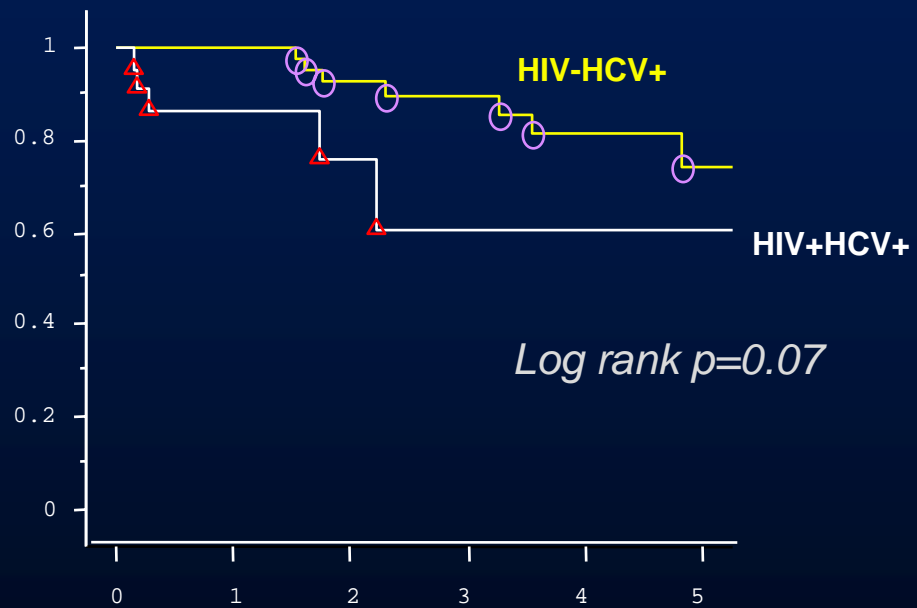
<i>Bacterial infection</i>	
<u>Monoinfected Patients</u>	<u>Coinfected Patients</u>
16/44 (36%)	3/23 (13%) <i>p=0.03</i>

<i>Opportunistic infections</i>	
<u>Monoinfected Patients</u>	<u>Coinfected Patients</u>
P. Carinii: n=2 Syst. Candidosis: n=2	Oesophagal candidosis: n=1

Drug Interaction In HIV Liver Transplant Patients



Survival analysis

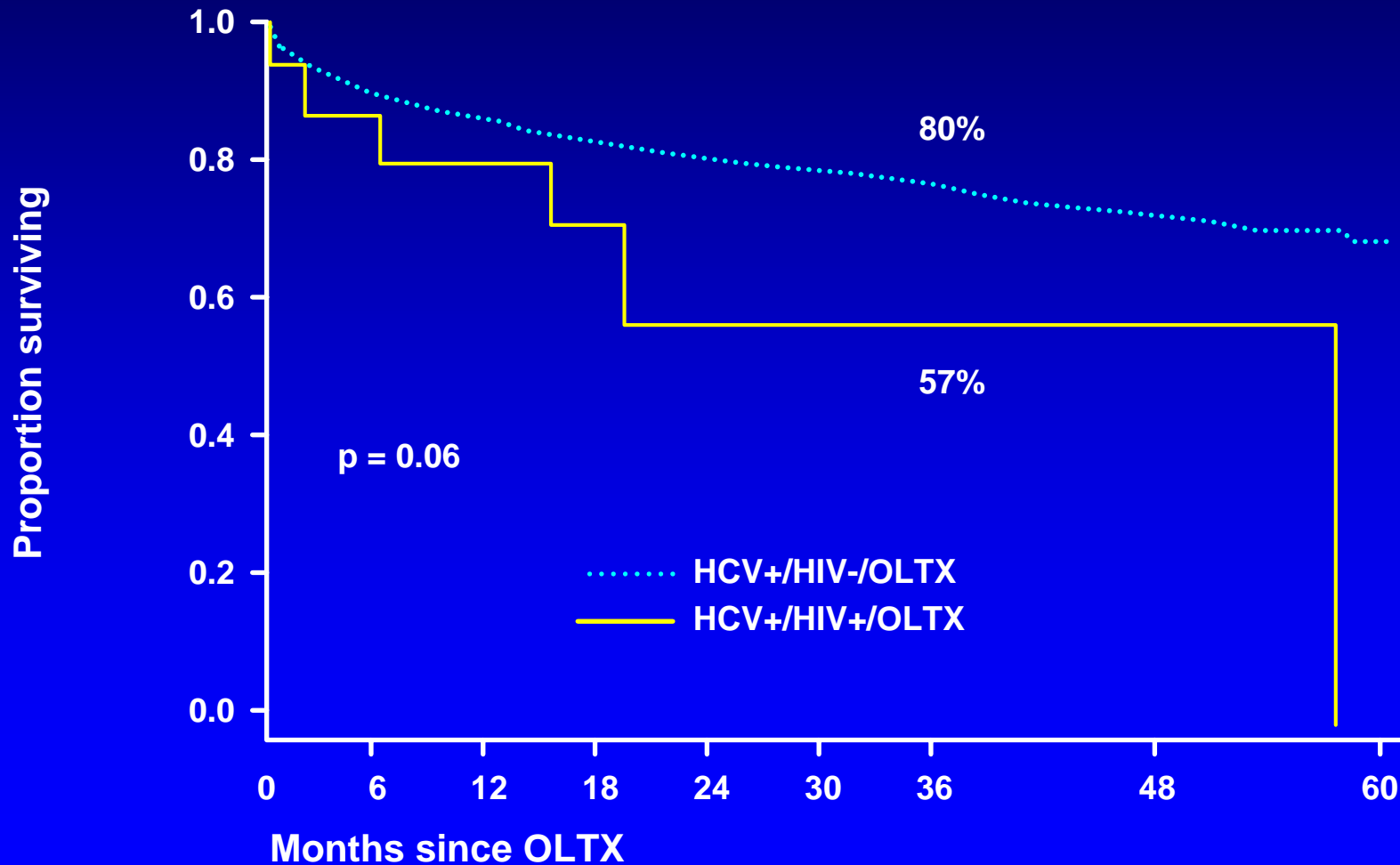


2-year survival:

HIV+/HCV (n=23): 72%

HIV-/HCV (n=44): 92%

Survival of Transplanted Monoinfected HCV (4062 Unos) and Coinfected HCV-HIV (15)



Liver Transplantation In HIV-HBV Patients

n=5

Patients	Post LT HBV therapy	Follow-up	Clinical status
ALE.	HBIG+Lam+Tenof.	M36	Well
MAH.	HBIG+Lam+Tenof.	M31	Well
BON.	HBIG+Lam+Tenof.	M24	Well
MONG.	HBIG+Lam+Tenof.	M12	Well
GREY.	HBIG+Lam+Tenof.	M12	Well

Conclusions

- Feasible
- **HBV-HIV:** Excellent
- **HCV-HIV:** Difficult
 - Mitochondrial toxicity
 - » Avoid DDI, D4T, AZT
 - » Change HAART if microvesicular steatosis
 - HCV recurrence
 - » Early Antiviral therapy

A Multidisciplinary Approach

Centre Hépato-Biliaire

D Castaing
D Samuel
R Adam
D Azoulay
C Feray
F Saliba
P Ichai
B Roche
T Antonini
M Gigou
C Danet
E Padeloup
C Tanguy
G Berthelot
Nurses ...

Department of Infectious Diseases

E Teicher
D Vittecoq

Biochemistry Unit

C Jardel
A Lombès

Department of Anesthesiology

C Josse
A Mirand
MC Gillon

Virology Unit

AM Roque-Afonso
V Mackiewicz
E Dussaix

Pathology Unit

M Sebagh
MP Bralet
C Guettier