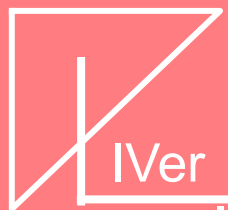


# CURE OF HCV RELATED LIVER DISEASE? NO

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Liver Institute of Virginia  
Education, Research and Treatment  
for Patients with Liver Disease



Bon Secours  
Health System

# CURING HCV

## THE VIRUS, THE LIVER, THE PATIENT

- We can now “cure” HCV in almost all patients
- However, we may not cure organ damage from HCV
  - Liver fibrosis
  - Cirrhosis
  - Extra-hepatic injury
- Until these “scars” resolve our patients remain at risk
  - HCC
  - Mortality
  - Reduced quality of life



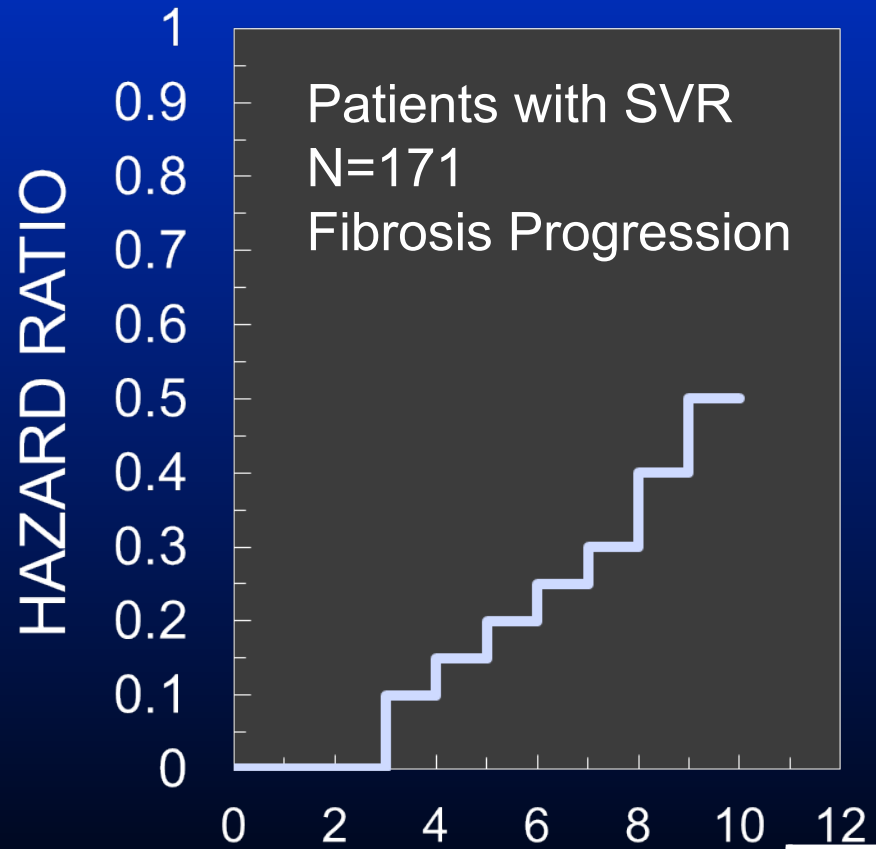
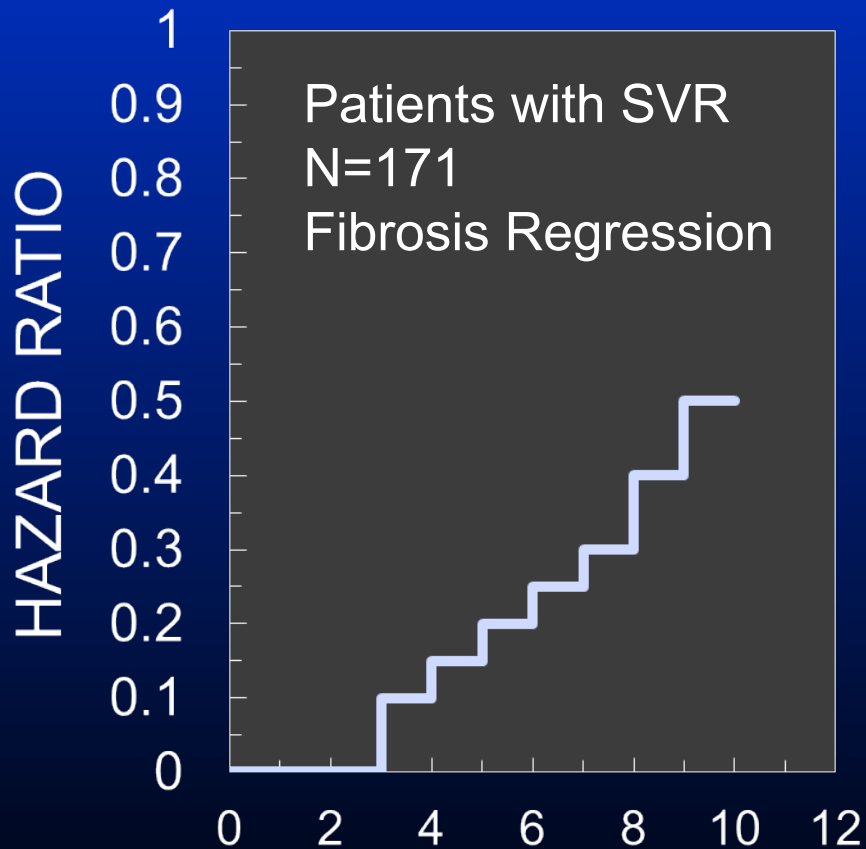
# AN SVR MAY NOT CURE THE LIVER PERSISTENT ELEVATION IN ALT

- Elevated ALT in patients with SVR:
  - 2-8% of patients treated with PEGINF
  - 1% of patients treated with oral anti-viral therapy
- What causes this?
  - INF induced immune hepatitis
  - Another co-existent liver disease
  - NAFLD
  - Alcohol consumption

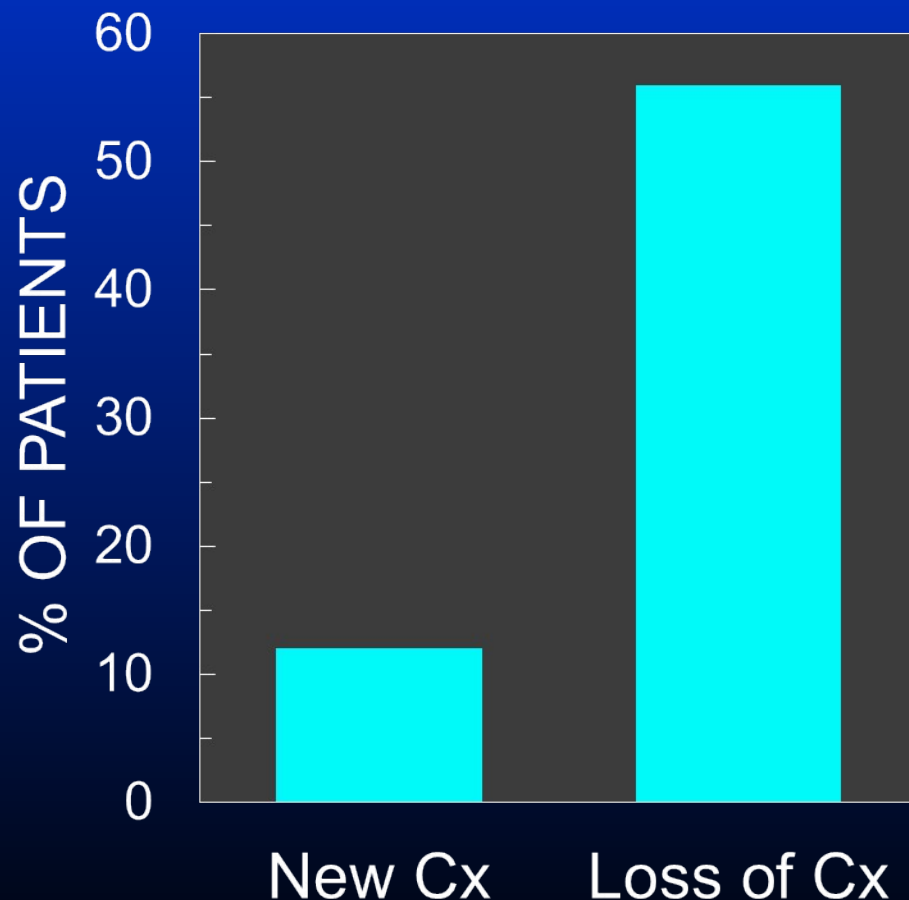
# ELEVATION IN ALT AFTER SVR APPROACH

- Since liver biopsy is now rarely performed co-existent liver disorders may be missed
- Monitor patients and serum ALT for at least a few years after SVR
- Serologies for other causes of liver disease if ALT is persistently or intermittently elevated
- Ultrasound to screen for fatty liver
- Consider liver biopsy to define etiology

# AN SVR MAY NOT CURE THE LIVER ASSESSMENT BY FIBROSURE



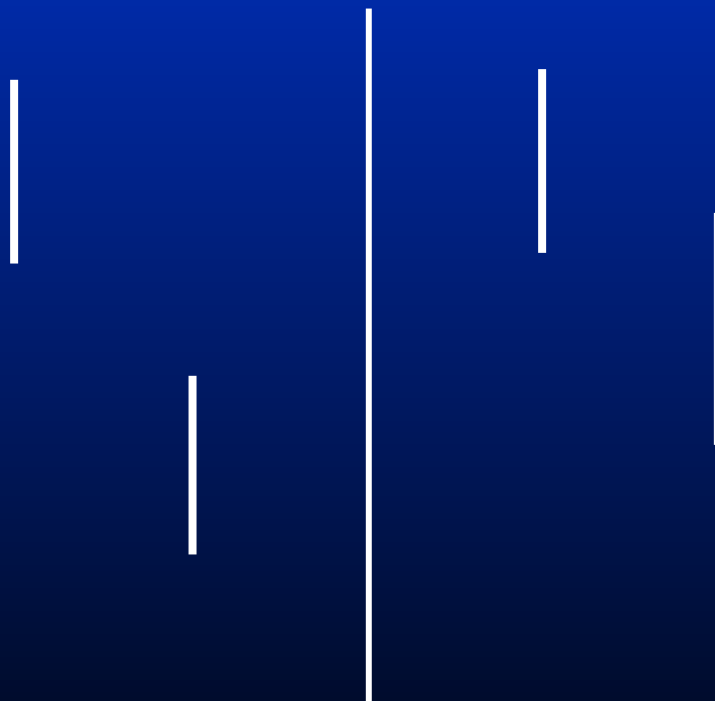
# PATIENTS WITH SVR MAY DEVELOP CIRRHOSIS



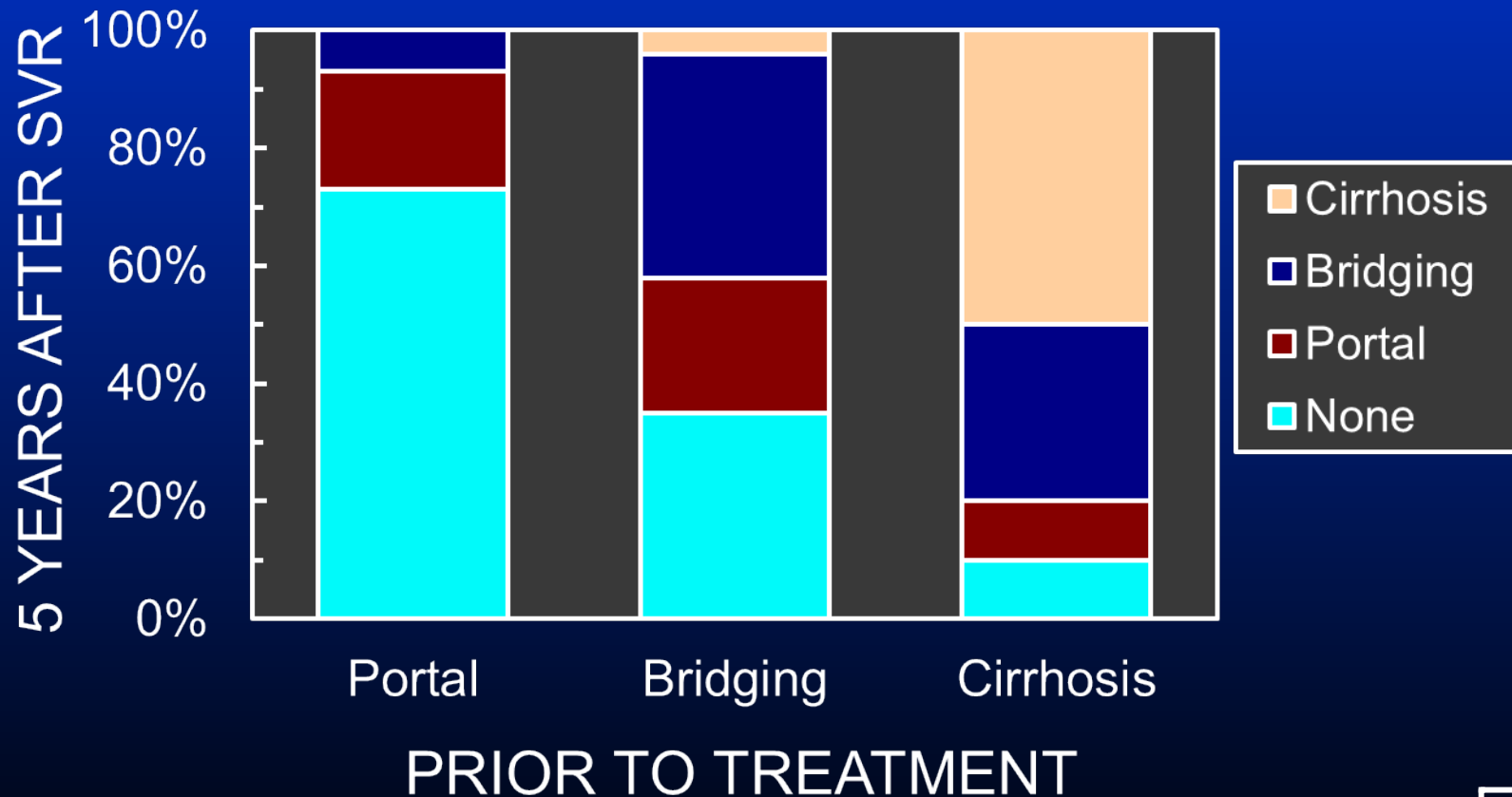
Why do 12% of patients progress to cirrhosis?

- They actually had cirrhosis before treatment
- Interferon stimulation of the immune response.
- Will not be seen with oral anti-viral agents
- Co-existent NAFLD
- ETOH
- Other unrecognized liver disorders

# SVR MAY NOT CURE THE LIVER PERSISTENCE OF LIVER INJURY

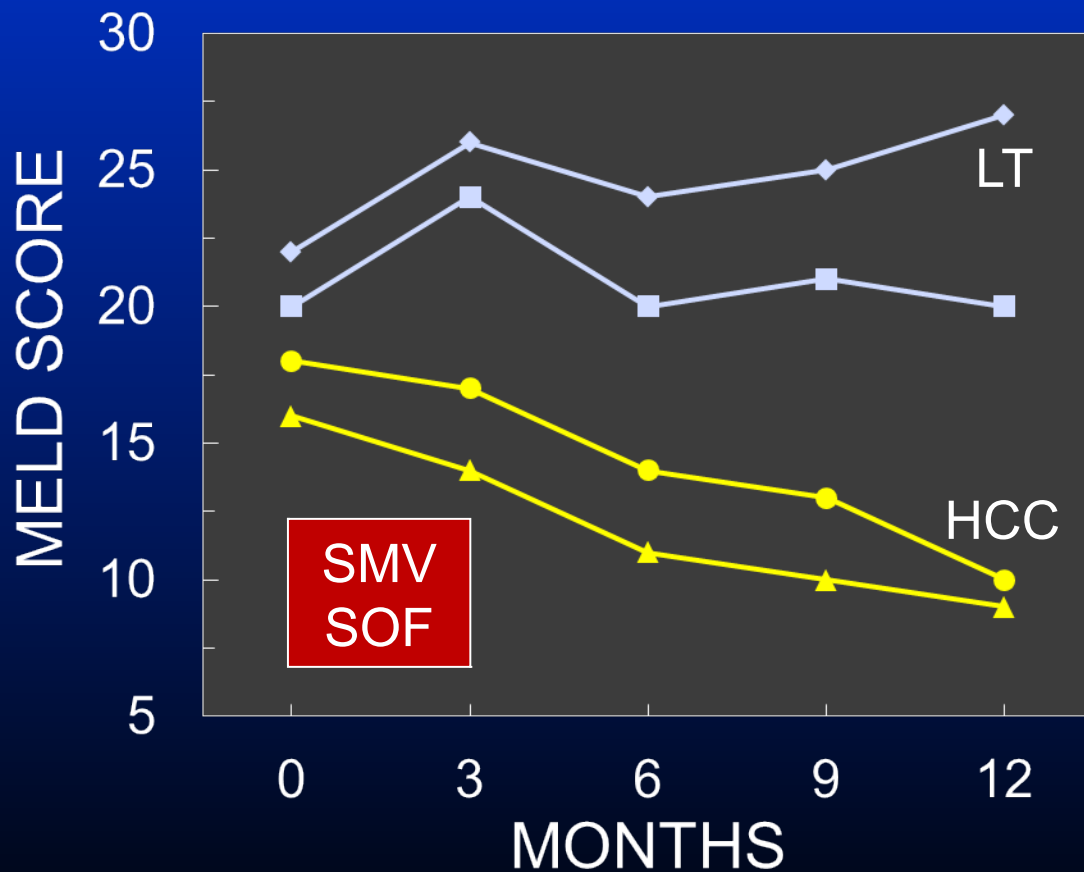


# SVR MAY NOT CURE THE LIVER PERSISTENCE OF FIBROSIS



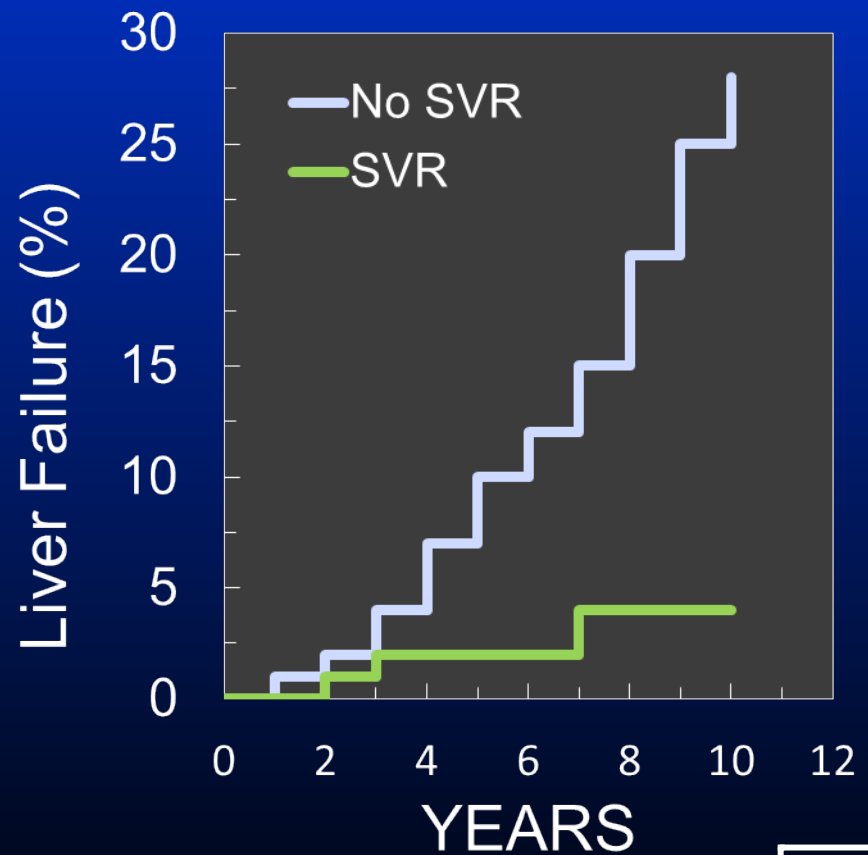
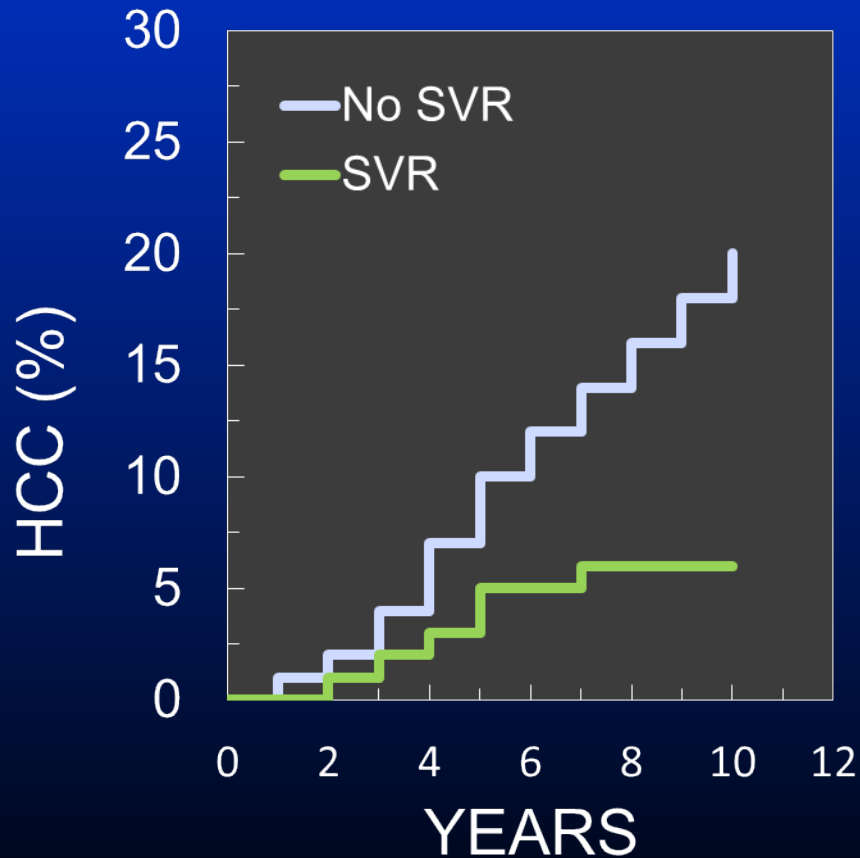


# SVR MAY NOT CURE THE LVIER THE POINT OF NO RETURN

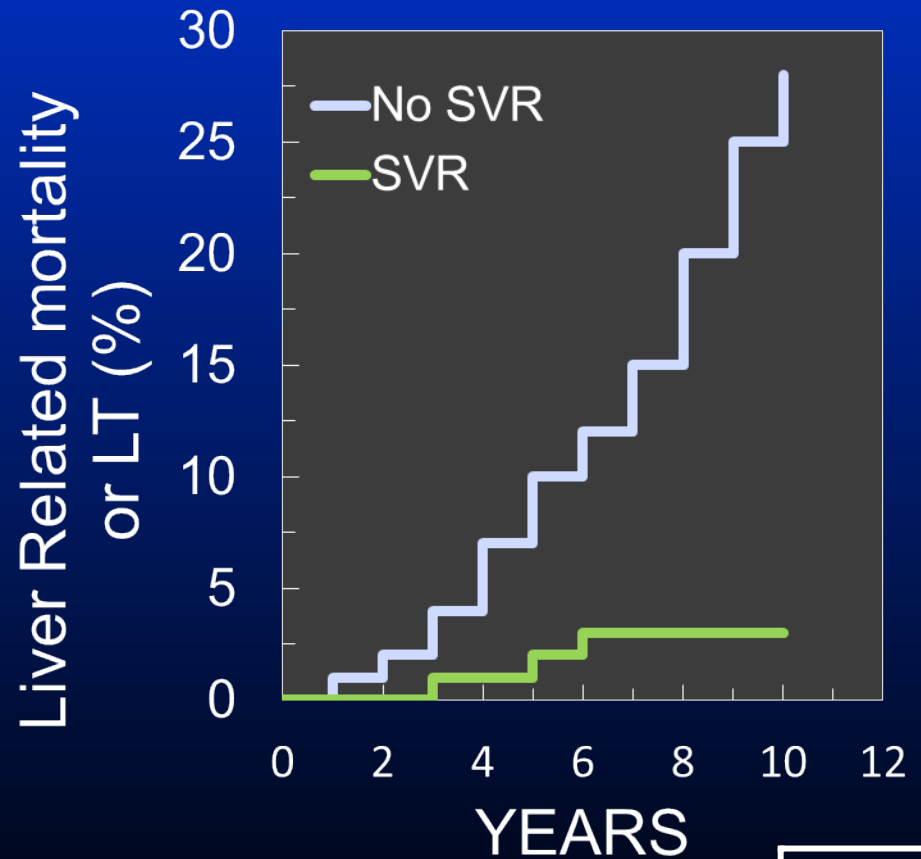
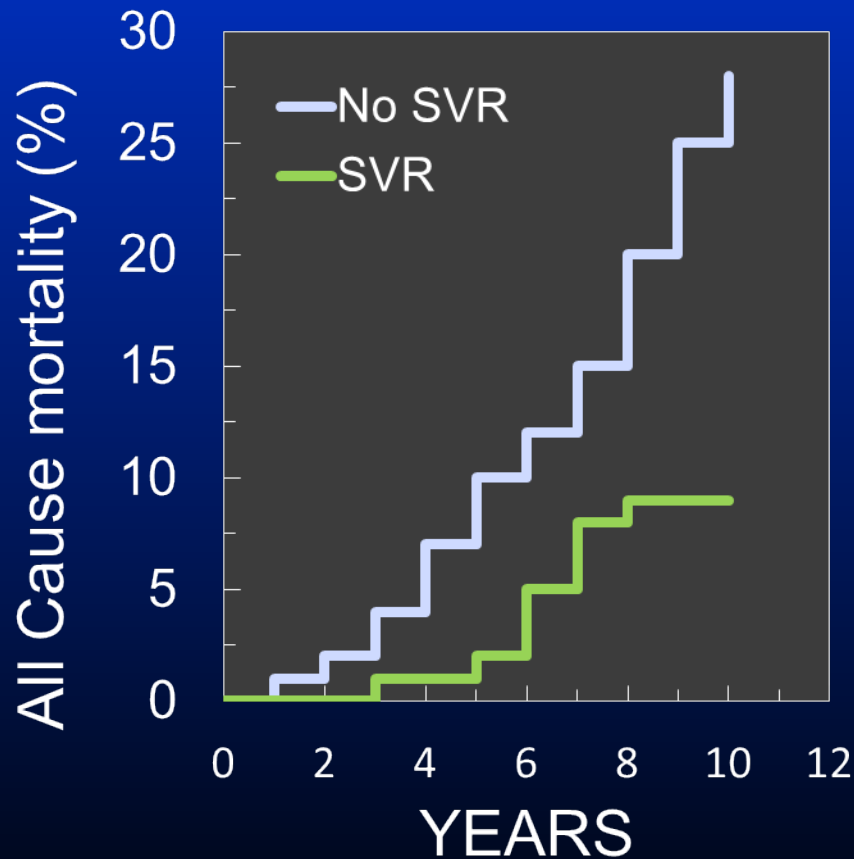


- N=120 patients
- Advanced cirrhosis
- Treated 12 weeks
- SOF+SMV
- Overall SVR = 81%
- Patients with MELD >20 did not appear to improve
- HCC developed in some patients that appeared to improve

# SVR MAY NOT CURE THE LIVER PERSISTANCE OF HCC RISK



# SVR MAY NOT CURE THE PATIENT PERSISTENCE OF MORTALITY RISK



AJ van der Meer et al.  
JAMA 2012; 308:2584-2593.



# ASSESSING THE LIVER AFTER SVR APPROACH

- Fibroscan or fibrosure annually until fibrosis has completely resolved
- In patients with cirrhosis:
  - Ultrasound every 6 months to screen for HCC
- Until:
  - All liver function studies and platelets are normal
  - Fibroscan or fibrosure no longer suggests advanced fibrosis

# SVR MAY NOT CURE THE PATIENT PERSISTANCE OF NON-LIVER INJURY

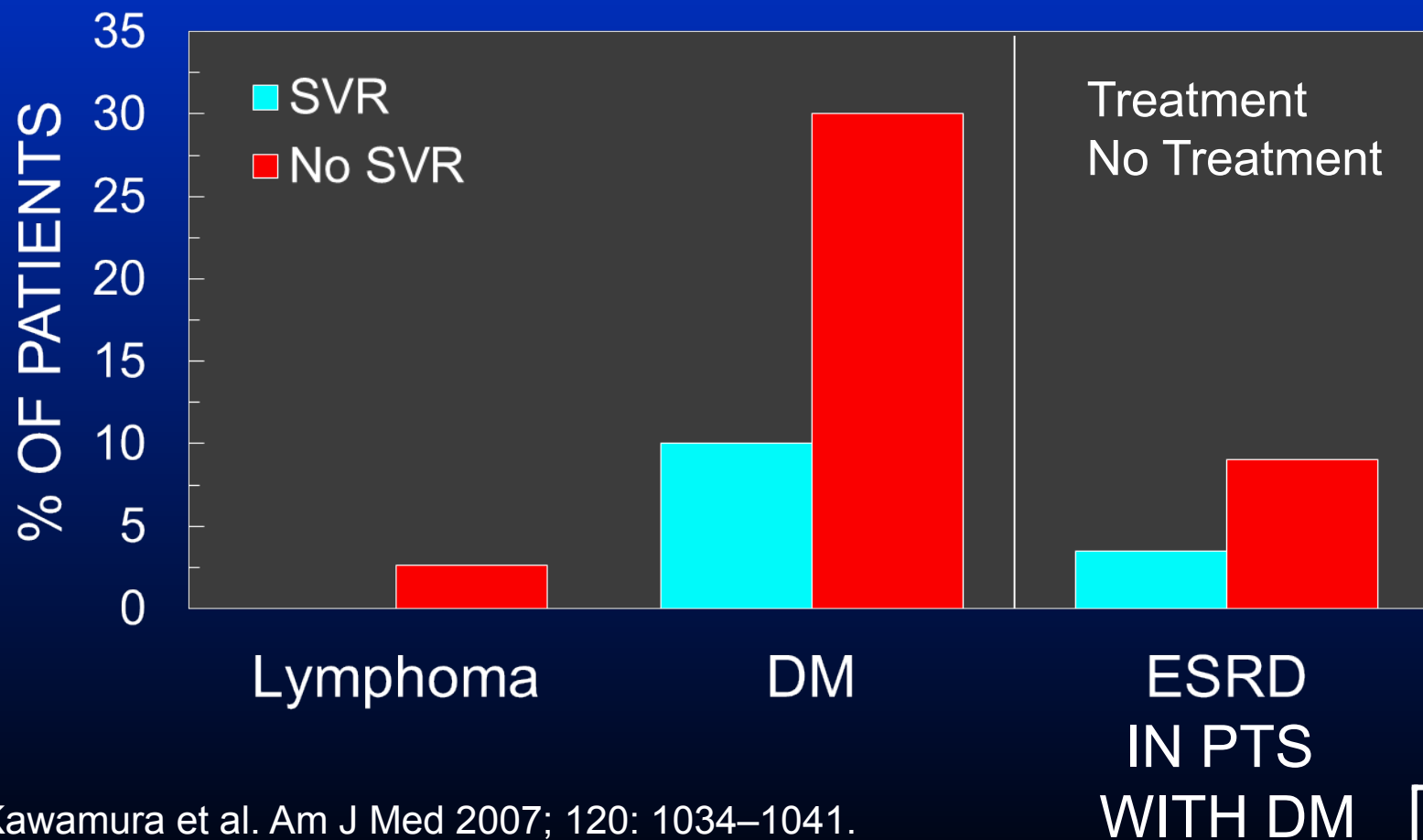
- Although cryoglobulinemia resolves in patients with SVR organs which have been injured by cryoglobulins do not appear to recover
  - CKD secondary to MPGN
  - Neuropathy
  - Neurocognitive changes
- B cell lymphoma
- Diabetes mellitus
- Fatigue
- Quality of life

L Alric, et al. Am J Kidney Dis 2004; 43: 617–623.

A Ammendola, et al. Muscle Nerve 2005; 31: 382–385.



# PREVENTING HCV RELATED DISEASE IMPACT OF SVR/TREATMENT



Y Kawamura et al. Am J Med 2007; 120: 1034–1041.

Y Arase et al. Hepatology 2009; 49: 739–744.

YC Hsu et al. Hepatology 2014; 59: 1293–302.



# CURING HCV RELATED DISEASE

## MAJOR ISSUES

- Curing HCV does not cure liver disease
  - We need to properly assess the patient for evidence of liver disease before and after the patient has been cured of HCV.
  - Ensure that the liver disease has in fact resolved.
- Curing HCV does not cure extra-hepatic injury
  - All the more reason to treat HCV before it damages the liver and extra-hepatic sites

# PHC 2015: CURING HCV DISEASE SUMMARY

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It's now the 8<sup>th</sup> PHC

And since 2004

when Patrick first opened the door

We can finally cure

Almost all affected by HCV

With drugs produced by BMS, Gilead, and AbbVie





# PHC 2015: CURING HCV DISEASE SUMMARY

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But what about the liver with scar  
If there is no virus can they return to the bar  
Or should they venture not to far  
Until their liver tests are all normal  
And their dismissal from care can finally be formal  
But for some it may be too late  
A high MELD or HCC has left them at the gate  
And for a transplant they must wait  
In order to prolong their mortality date



# PHC 2015: CURING HCV DISEASE SUMMARY

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For others it's the immune response outside the liver  
That has damaged nerves and causes muscles to quiver  
Affected the kidney  
Caused lymphoma  
Or preventing the blood sugar from going any lower

These effects of HCV may not go away  
And will cause symptoms for years and a day



# PHC 2015: CURING HCV DISEASE SUMMARY

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So on this solemn week in France  
We have discussed the HCV treatment advance

And like many things in society today  
We must be vigilant to things (like HCV) that prey  
Stand in solidarity and tell both producers  
and those that pay  
That limiting treatment is not the way



# PHC 2015: CURING HCV DISEASE SUMMARY

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The only approach for patients to be disease free  
Is to treat everyone and eliminate  
The scourge we call Hep C  
Thank you for your attention and  
LeSuis Charlie.

