The final frontier: Successful treatment for HCV genotype 1 in those with HIV with access to treatment

David K Wong[1], Lise Bondy[2], Alice Tseng[3], Pauline Murphy[4], Sharon Walmsley[2]
1. Hepatology; 2. Infectious Diseases; 3. Pharmacology; 4. Nursing. University Health Network, University of Toronto, Toronto, Canada.

Abstract CSP 3.16

Background

- How we see HCV in HIV has evolved over time.
  - 1989: HCV discovered
  - 1990s: HCV insignificant compared to HIV mortality
    - Bica et al 2001 report 50% of mortality due to liver
    - HCV gets the blame – what about alcohol?
  - 2000s: PegInterferon Era: ineffective, many side effects
    - M Mclaren et al 2008 report <20% treated, SVR low
    - Patients do not want to be treated
    - Doctors find reasons not to use interferon
    - Warehousing of patients in anticipation of PIs
  - 2011 First generation protease inhibitors
    - Treat all genotype 1 patients?
    - Warehousing of patients in anticipation of IFN-free
  - 2014 Interferon-free regimens
    - Treat versus ongoing warehousing of patients

Methods

Hepatology in Immunodeficiency Clinic in 2002
EMR started Sep 2006 - Single person data entry
Patients discharged before 2006 NOT captured
Re-infection rates, death rates under-estimated if patients
discharged
All with HIV, referred for hepatitis C
Injection drug use history, not necessarily current use
Alcohol – different thresholds
Complications of cirrhosis: most did not have gastroscopy
Fibrosis assessed by Fibrotest, Fibroscan or Liver biopsy
2014: Decision to treat HCV in HIV irrespective of cART
Enhanced follow-up during treatment

2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Results

- EMR search to April 2016
  - Number with HIV = 539
    - HCV N=291
    - HBV N=128

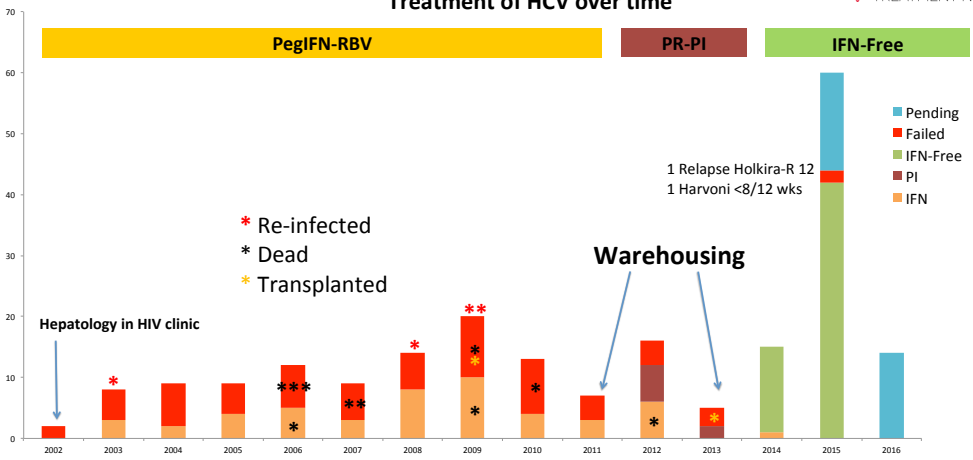
Safety

- LPV/r and SOF/LDV N=5
  - Adverse Event in N=3
  - Direct hyperbilirubinemia by week 2
    - ALT/AST normalized
  - Symptomatic
  - Resolved by stopping SOF/LDV or LPV/r

Declaration of Interest

- DW has spoken at CME events by Abbvie, Gilead, and Merck
- SW has served on advisory boards and spoken at CME events by AbbVie, Bristol-Myers Squibb, Gilead, Merck and ViiV. SW also has career support from OHTN
- AT has served on advisory boards and spoken at CME events by Gilead, Janssen and Merck.

Treatment of HCV over time

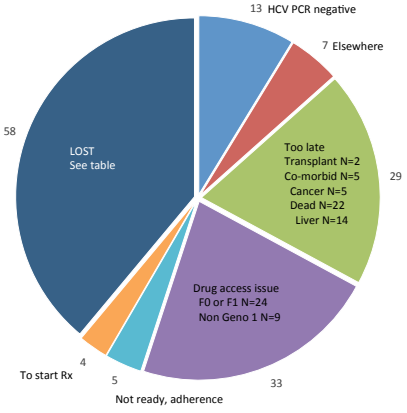


	All N=291	IFN N=119	IFN-free N=87	Left behind N=149
Male	254 (87.3%)	104 (87.4%)	77 (88.5%)	126 (84.6%)
White/Black/ Asian/First Nations	241/20/21/9	104/8/6/1	72/5/7/3	124/11/9/5
Med Age (range)	49 (23-78)	46 (23-65)	52 (27-74)	49 (23-78)
MSM	187 (64.3%)	83 (69.7%)	62 (71.3%)	82 (65.1%)
IDU	162 (55.7%)	59 (49.6%)	39 (44.8%)	95 (63.8%)
Alcohol (0/1/2/3/4)	165/23/19/24/60 Heavy = 28.9%	73/9/13/5/19 Heavy = 20.2%	51/7/2/8/19 Heavy = 31.0%	81/11/8/15/34 Heavy = 32.9%
Geno 1/2/3/4	206/20/42/10	78/12/22/5	84/0/1/2	98/11/31/1
Fibrosis (0-1/2/3/4)	93/44/47/90 F3/4 = 137 (50%)	36/14/17/48 F3/4 = 65 (55%)	15/19/18/35 F3/4 = 53 (61%)	55/73/21/41 F3/4 = 49 (33%)
Hepatoma	9 (3.1%)	1 (0.8%)	2 (2.3%)	6 (4.0%)
Failed IFN Rx	71 (24.4%)	62 (52.1%)	28 (32.2%)	34 (22.8%)

Alcohol: 0=min, 1=1-2/day, 2=2-3/day, 3=3-6/day, 4=>6/day

	All N=291	IFN N=119	IFN-free N=87	Left behind N=149
Median CD4 (range)	436 (<10-1757)	432 (25-1757)	503 (81-1757)	376 (<10-1023)
No ARV	33 (11.3%)	12 (10%)	2 (2%)	21 (14%)
TDF	161 (55%)	69 (60%)	58 (67%)	76 (51%)
ABC	95 (33%)	41(34%)	27 (31%)	49 (33%)
3TC or FTC	252 (87%)	103 (87%)	85 (98%)	122 (82%)
NN: EFV/ETR/ NVP/RPV	47/17/20/11 N=95 (32.6%)	17/9/9/2 N=37 (31.1%)	13/7/4/3 N=27 (31.0%)	21/9/10/7 N=47 (31.5%)
PIs: ATZ/DRV/ LPV/Others	33/39/27/8 N=107 (36.8%)	14/18/11/6 N=49 (41.2%)	4/11/5/0 N=20 (23.0%) ↓	21/23/18/4 N=66 (44.3%)
DOL/RAL/EVG	30/49/7 N=84 (29.6%)	10/23/1 N=34 (28.6%)	23/23/4 N=50 (57.5%) ↑	8/21/3 N=32 (21.5%)

N=149 left behind



	ALL N=291	Lost N=58
Male	254 (87.3%)	47 (81.0%)
White/Black/Asian/First Nations	241/20/21/9	48/5/3/2
Median Age (range)	49 (23-78)	46 (23-65)
MSM	187 (64.3%)	29 (50%)
IDU	162 (55.7%)	39 (67.2%)
Alcohol (0/1/2/3/4)	165/23/19/24/60 Heavy = 28.9%	31/5/1/4/17 Heavy = 36.2%
Fibrosis (0-1/2/3/4)	88/43/48/89 F3/4 = 137 (47%)	24/10/12/20 F3/4=32 (48%)
Hepatoma	9 (3.1%)	0
Prior IFN Rx	71 (24.4%)	12 (20.7%)

Discussion

- More MSM, less IDU than Canadian Cohort
- HCV treatment now easy, effective
  - Warehousing of patients effectively over
  - Models of HCV treatment effect need to assume higher treatment success (not use IFN data)
  - Safety concern: SOV/LDV with LPV
- Access/medication cost is major issue
- Number of treatment centres increasing
  - Treatment in primary care setting amplify access
- Holistic approach is needed
  - Co-morbid illness? Social stability/Adherence?