Hepatitis C – towards eradication

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• viral hepatitis = 1.34 million deaths higher than number of deaths from HIV
• 3.5% living with HBV
• 2.7 million HBV/HIV
• 1% world pop. 71 million living with HCV
• Mortality from viral hepatitis increased 22% since 2000
• HCV Pandemic 3-4 million new cases / year
• UK 300-500 000 cases. WHO 2015
HCV Transmission

- **Blood Bourne virus**
- **parenteral** (IV)- major source IVDU, tattoo, piercings, scarification, circumcision, none-sterile medical procedures, needle stick injuries
- **sexual** - related to activity/ drug usage HIV blood contact – CHEM Sex / PnP / Crystal Meth
- **vertical** (mother to child) – rare but possible / considered safe to breast feed
- **Intra-familial** (within the family)
HCV exposure

weeks

Acute HCV infection

months

Chronic HCV

14% at 20 yrs
> 30% at 30 yrs
decades

hepatoma

2% PA

Death / transplantation

cirrhosis

85% 5 yr survival

Non-progressive cirrhosis

75%

resolve

25%

hepatoma

85% 5 yr survival

Non-progressive

2% PA

~ 2.5% PA

4% PA

40% dead within 2 years

Death / transplantation

transplantation
Death from HCV occurs with cirrhosis
Lets consider!!

- 52 y female diagnosed HCV 2002
- Previous IVDU
- HCV treated in 2004 – Side effects ++++ non responder
- 2008 – diagnosed with HCC x 2
- Listed for Liver Transplant (+ HCC treatment)
- Transplanted 2008
- Recurrent HCV – treated again x 2 poorly tolerated – treatment failed
- Liver fibrosis progressed – cirrhosis and decompensation
- Discussed re – transplant patient declined
- Became grandma, multiple admission
- Re-transplanted 2013 – recurrent HCV infection
- 2014 - Retreated with DAAs – cured of HCV
New DAAs: Sites of action

Important message:
- Oral – one tablet a day
- Minimal side effects Better tolerated
- Less DDIs
- 90+% cure rates

28 years of HCV history

- HCV isolated

  *Choo QL et al. Science 1989;244:359–62*

- HCV – curable
  - possible to eliminate infection
Figure 23. Predicted number of people living with HCV-related cirrhosis or decompensated cirrhosis/HCC in England under new DAAs compared to previous IFN-based therapy (95% credible intervals are given in parentheses)\(^{31}\)

- **IFN-based therapy at 2014 levels**
  - 2030:
    - Compensated cirrhosis: 10540
    - Decompensated cirrhosis and hepatocellular carcinoma: 3050
    - Total: 13590
  - 2025:
    - Compensated cirrhosis: 10370
    - Decompensated cirrhosis and hepatocellular carcinoma: 3000
    - Total: 13370
  - 2020:
    - Compensated cirrhosis: 9640
    - Decompensated cirrhosis and hepatocellular carcinoma: 2800
    - Total: 12440
  - 2015:
    - Compensated cirrhosis: 8660
    - Decompensated cirrhosis and hepatocellular carcinoma: 2500
    - Total: 11160

- **Direct acting antivirals, 10k in 2016 rising to 15k in 2020**
  - 2030:
    - Compensated cirrhosis: 1920
    - Decompensated cirrhosis and hepatocellular carcinoma: 700
    - Total: 2620
  - 2025:
    - Compensated cirrhosis: 3340
    - Decompensated cirrhosis and hepatocellular carcinoma: 930
    - Total: 4270
  - 2020:
    - Compensated cirrhosis: 4410
    - Decompensated cirrhosis and hepatocellular carcinoma: 1070
    - Total: 5480
  - 2015:
    - Compensated cirrhosis: 8470
    - Decompensated cirrhosis and hepatocellular carcinoma: 2490
    - Total: 10960

Hepatitis C in the England 2017 (PHE)
Eradication of HCV by 2030

A Total infected cases (viremic) in England

B Liver-related deaths in England

C Total cases of HCC in England

D All cirrhosis in England

Cramp ME et al BMC Gastroenterol. 2014 Aug 7;14
Wedemeyer H et al J Viral Hep 2014;21(suppl1):60-89
Treatment delivered by 22 HCV Operational Delivery Networks

- £190 million budget for HCV
- 10,000 patients treated in 2016/17
- 12,000 patients to be in 2017/18
- NEED for improved screening and diagnosis – treatment pathways
Receptions to English prisons in 2013 who received a hepatitis C test  

Published by PHE 2014

- Estimated 7% Prison Population HCV+  
  (HCV trust 2016)
Proactive testing and treatment in high prevalence groups very effective.

He et al, Annals Int. med. 2016
URINE DRUG SCREEN RESULTS:
DAY 1 TO TREATMENT WEEK 12

Immediate Treatment Arm;
EBR/GZR Treatment Phase

Deferred Treatment Arm;
Placebo Phase

% of Patients with Positive Urine Drug Screen

* 8 drug classes: amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates, phenylcyclidine, propoxyphene

ADHERENCE

Immediate treatment arm
Deferred treatment arm
(Active study medication)
(Placebo)

>80% (>67 doses) 99.0
>90% (>76 doses) 96.5
>99% (>79 doses) 100.0

SVR12 IN THE IMMEDIATE TREATMENT GROUP:
FULL ANALYSIS SET (FAS)

Full Analysis Set

% SVR12 (95% CI)

<table>
<thead>
<tr>
<th>All GT</th>
<th>GT1a*</th>
<th>GT1b</th>
<th>GT4</th>
<th>GT6</th>
</tr>
</thead>
<tbody>
<tr>
<td>184/201</td>
<td>144/154</td>
<td>28/30</td>
<td>11/12</td>
<td>1/5</td>
</tr>
</tbody>
</table>

Relapse 7 4 1 0 2
Reinfection 5 3 0 0 2

C-EDGE CO-STAR: EFFICACY OF GRAZOPREVIR / ELBASVIR FIXED DOSE COMBINATION FOR 12 WEEKS IN HCV-INFECTED PERSONS WHO INJECT DRUGS ON OPIOID AGONIST THERAPY


*Includes one subject with mixed infection (GT1a and GT1b) who achieved SVR12

†Includes one subject with HCV RNA(>16), consistent with reinfection; this subject was lost to follow-up and did not return for confirmation of HCV RNA; this subject was discontinued for administrative reasons and counted as a failure in the FAS

GT = genotypes; LTFU = lost to follow-up; VFT = virologic failure.
Time to consider different ways of providing HCV treatment

Injecting networks – Bring a friend
Delivered in community
In conjunction with other services – pharmacy, drug agencies, housing, probation etc
LETS BE CREATIVE – learn from other areas / service users
Get involved

- PLEASE GET INVOLVED WITH YOUR ODN –
- Promote service user involvement
- Push for better testing provision
- If you have a client / friend refer all HCV + patients for treatment
- NEW ERA FOR HCV treatment and potential eradication