The Rocky Road to Viral Hepatitis Elimination

Different strokes for different folks?

Men who have sex with men

Andri Rauch, MD
Associate Professor of Infectious Diseases
University Hospital Bern, Switzerland
andri.rauch@insel.ch
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The rocky road to HCV elimination in HIV-infected MSM

- Hepatitis C epidemiology
- Treatment and HCV elimination
- The Swiss HCVree trial

→ See tomorrow: Test and treat: Dutch MSM treatment experience by Bart J.A. Rijnders
The changing HCV epidemic in the SHCS

The 'classic' epidemic (predominantly PWID)

The 'new' epidemic (predominantly MSM)

PWID: persons who inject drugs, MSM: men who have sex with men
Hepatitis C virus infection incidence rates by transmission group


Updated from Wandeler G et al. SMW 2015
Increase in HCV incidence among HIV-infected MSM

Hagan et al, AIDS 2015
HCV transmission among HIV-infected MSM: disrupted barriers, susceptibility and HCV exposure

- **Condomless anal intercourse:** ~5-fold (Vanhommerig et al, OFID 2015)
- **Sharing sex toys:** ~4-fold (Vanhommerig et al, OFID 2015)
- **Unprotected fisting:** ~3-fold (Vanhommerig et al, OFID 2015)
- **Intravenous drug use:** ~16-fold (Vanhommerig et al, OFID 2015)
- **Sharing straws when snorting:** ~3-fold (Vanhommerig et al, OFID 2015)
- **Serosorting/risk perception/PrEP**
- **HIV:** ~19-fold (Ghisa et al, Infection 2017)
- **STIs**
  - Syphilis ~2-fold ↑
  - HBV ~1.5-fold ↑ (Wandeler et al, CID 2012)

Reinfections among HIV-infected MSM

24.6% with reinfection
Reinfection incidence 7.3/100py

Ingiliz et al, J Hepatology 2016
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Great improvements in treatment safety and eligibility

IFN-α induced activation of immune-responses & „cytokine storm“ causes:
• Flue-like symptoms
• Depression
• Cytopenia
• Increased risk in liver failure
• Serious adverse events: 7.%¹

Targeted small compounds cause:
• Few side-effects
• Drug-drug interactions
• Serious adverse events: <1%²

Comorbidities as exclusion criteria for HCV treatment:
IFN-based: 57%³  DAAs: <5%³

Treatment uptake and efficacy in the SHCS

Béguelin et al, Liver International, in press
HCV treatment and changes in the HIV/HCV co-infected population

Number of patients

- PWID
- MSM

Number of patients

- 1st gen DAA
- 2nd gen DAA

Proportion of patients

- PWID
- MSM

Proportion of patients

- 1st gen DAA
- 2nd gen DAA

Salazar-Vizcaya, unpublished

- Spontaneous clearance
- SVR
- RNA+
Delaying HCV therapy increases HCV prevalence among HIV-infected MSM: A hurdle to HCV elimination

Zahnd et al, J Hepatology 2016
Risk behavior and treatment-as-prevention

A. Further increase in high-risk behavior

- Current treatment uptake (0.22/yr)
- Increased treatment uptake (1/yr)

B. Stabilization in high-risk behavior

- Current treatment uptake (0.22/yr)
- Increased treatment uptake (1/yr)

WHO target: -90%

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The Swiss HCVree trial

Intensive Intervention (Tx with GZR/EBR + risk counselling)

Screen  Screen

2016  2017  2025

HIV-positive MSM

- enrolled in the intensive intervention with risk counselling
- enrolled in the intensive intervention without risk counselling
- not enrolled in the intensive intervention

Outside intensive interventions  Within intensive interventions

Salazar et al. J Viral Hepatitis, 2017
Expected impact of the HCVree trial on HCV prevalence

Intensive Intervention (Tx with GZR/EBR + risk counselling)

Treat in F2

Treat within 1 year after diagnosis

Adapted from Salazar-Vizcaya et al. J Viral Hepatitis, 2017
Expected impact of the HCVree trial on HCV treatment episodes/costs

Treatment within 1 year of infection (compared to deferring to F2) results in:
- few (~20%) additional treatment episodes
- 20-fold reduction in HCV prevalence

Adapted from Salazar-Vizcaya et al. J Viral Hepatitis, 2017
Why not HCV eradication?

Infections from external sources

Reinfections

The international love life of the Swiss

Salazar-Vizcaya et al. IWHOD 2017
HCV vree: First results

MSM participating in the SHCS
N = 4'257

MSM screened within Swiss HCV vree Trial
N = 3'722 (87%)

MSM with replicating HCV
N = 177 (4.8%)
- Genotype 1: 126 (71%)
- Genotype 2: 2 (1%)
- Genotype 3: 8 (5%)
- Genotype 4: 41 (23%)

No previous positive HCV test (Serol/RNA)

Incident HCV infection
N = 23 (13%)
  - Non-reactive anti-HCV N = 7 (30%)
  - Reactive anti-HCV N = 15 (65%)

Pseudo-incident HCV infection
N = 6 (3%)

Known HCV infection
N = 148 (84%)

HCV seropositive, HCV-RNA previously negative

Updated from Braun D et al, CROI 2017
Risk counselling in the Swiss HCVree Trial

Assessment sexual risk behaviour: baseline, weeks 12 and 28
Risk-behaviour counselling: weeks 4, 6, 8 and 12
Development of the HCVfree behavioural intervention

- Literature review
- CISS for MSM
- Expert rounds
- Open end Interviews target population
- Same interventional concept (theory) + 1 Session
- 6 new HCV prevention specific topics
- New intervention
- HCVfree and me
- Feedback Experts/pilot testing

Slide Courtesy D. Nicca
The behavioural intervention process

1. Who am I?
   Computer-assisted counseling
   40-50 min

2. Working through
   Health care providers with expertise in HIV/HCV care
   Techniques of motivational interviewing
   40-50 min

3. Making my plan
   40-50 min

4. Evaluating my plan
   30-40 min

Slide Courtesy D. Nicca
The analogy with other infectious diseases: Elimination is difficult despite effective treatments!
…nevertheless, an optimistic outlook

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