High Rates of Advanced Fibrosis and Cirrhosis in HIV/HCV Co-infected Patients Naïve to HCV Treatment in an Urban Ethnically Diverse Cohort.

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Background: HIV infected patients undergo baseline and regular screening for Hepatitis C (HCV) as per BHIVA guidelines. [1] In contrast, HCV mono-infected patients are diagnosed by opportunistic screening in primary care or when symptomatic. HCV testing rates in urban GP practices are as low as 2.4/1000 patient years and it is estimated that nearly 60% of IVDUs living with HCV in some areas are undiagnosed. [2,3] It could therefore be expected that HCV mono-infected individuals would present later and therefore that untreated HCV mono-infected patients would have a greater burden of liver disease than co-infected patients with untreated HCV.

BHIVA guidelines state that HCV treatment should be considered for all patients with genotype 2 or 3 HCV and all patients with genotype 1 or 4 with significant liver fibrosis. [1] However, due to relatively poor SVR rates - of around 60% of those seen in mono infection - and due to other factors such as patient wish, clinician concern regarding co-morbidities and drug interactions, as well as substance or alcohol misuse, in many patients with HIV and HCV, HCV treatment may not have been initiated. We reviewed the attendees at our specialist co-infection clinic with the aim of comparing liver fibrosis rates in patients with HIV/HCV who had not previously received HCV treatment with HCV mono-infected patients who had also not yet been treated for HCV .

Methods: We interrogated our prospectively maintained database to identify all HIV/HCV co-infected patients who had never previously been treated for HCV and compared them with mono-infected patients who had also never received HCV treatment. Demographic information was gathered and the stage of liver disease, defined either by fibroscan, liver biopsy, or on clinical grounds in those with decompensated cirrhosis, was defined for each patient. Statistical analysis was performed using T-tests to compare normally distributed variables and Mann-Witney U tests to compare non-parametric variables.

Fibrosis group	Definition
Mild	Biopsy fibrosis stage 0-2 (Ishak) or Fibroscan <7.65 kPa
Moderate	Biopsy fibrosis score 3-4 (Ishak) or Fibroscan 7.65-13kPa
Cirrhosis	Biopsy Fibrosis score 5-6 (Ishak) or Fibroscan > 13kPa, or clinical evidence cirrhosis; portal hypertension or decompensation.

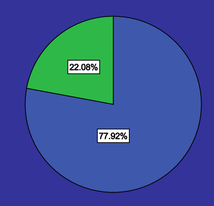
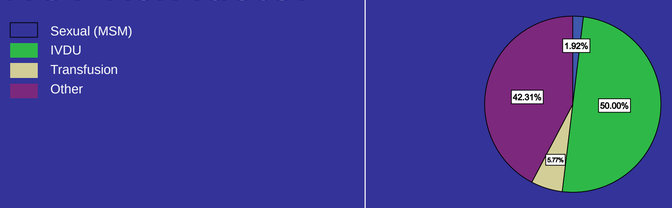
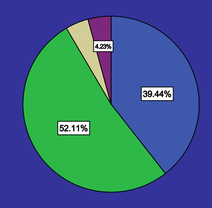
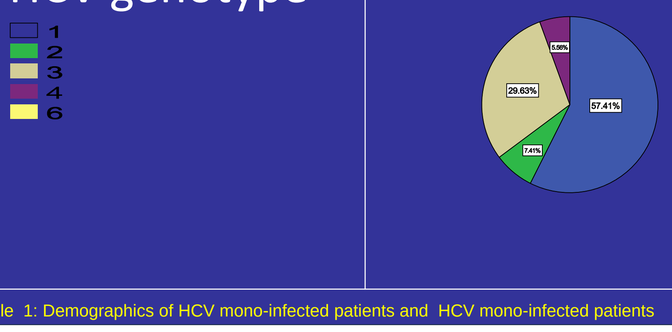
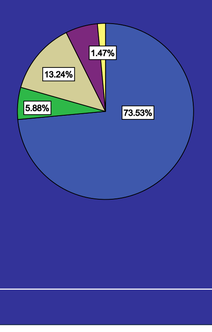
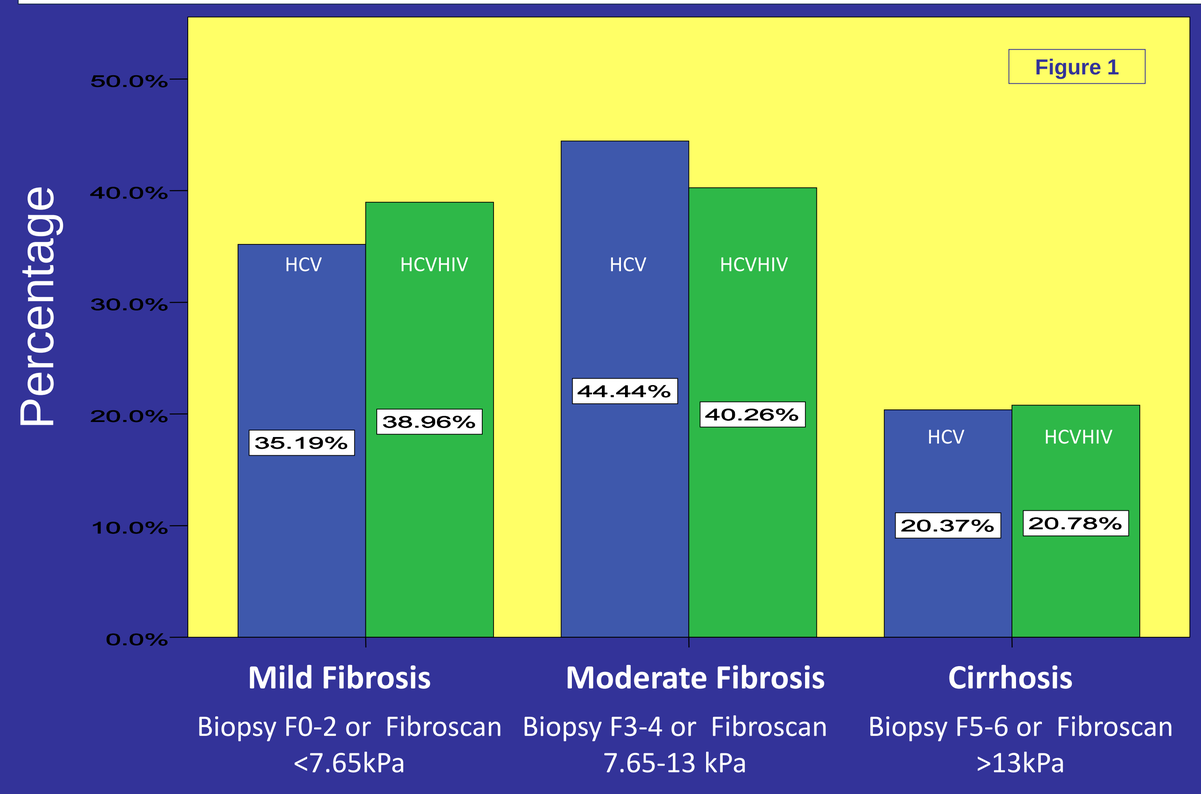
	HCV mono-infection	HIV/HCV
Age (years) median	48	44
Gender		
HCV risk factor		
HCV genotype		

Table 1: Demographics of HCV mono-infected patients and HCV mono-infected patients

Results

- 77 HIV/HCV co-infected patients and 54 HCV mono-infected patients were identified. Demographics are shown in Table1
- There was no statistically significant difference in fibrosis severity between HCV mono-infected and HIV/HCV co-infected patients. (Figure 1)
- Median Fibroscan score was 7.1 kPa in co-infected patients, 7.2 kPa in mono-infected patients.
- Overall, 20% of mono-infected and 22% of co-infected patients treatment were cirrhotic before ever having received Hepatitis C treatment.



- The median duration of HIV infection prior to referral to our clinic was 11 years (6, 19.3). The median duration of ART was 6 (2, 9.6) years.
- Patients with minimal fibrosis and patients with cirrhosis had a similar duration of HIV infection and ART.

HIV/HCV Coinfected Patients

Fibrosis group	Duration of HIV Infection (median years)	Duration of ART (median years)
1 n=29	7 (4, 10)	3 (0,7)
2 n=21	4 (1.5, 8.5)	2 (1,5)
3 n=17	8 (2.3, 13.7)	2 (0,3)

Conclusions

- Despite being in HIV care for a median of 11 years, HIV/HCV co-infected patients had similarly poor rates of fibrosis compared with mono- infected HCV patients who can only be diagnosed by opportunistic screening or when symptoms arise.
- Historically, many HIV/HCV patients have not been considered for HCV treatment, however, none of these patients had even a trial of HCV treatment despite a potential cure rate of 40% and up to 60% for the 19% of patients infected with genotype 2 and 3.
- Patients with HIV/HCV have significant levels of fibrosis which may necessitate treating for HCV even if only standard IFN/RBV treatment is available. Fibrosis level cannot be assessed without specialised investigation, namely Fibroscan or liver biopsy
- With the advent of directly acting antivirals (DAAs) and their improved SVR rate, it is essential to refer HIV/HCV patients to specialist services for consideration of HCV treatment.
- As 20% of untreated HIV/HCV patients were cirrhotic, it is also important to refer patients who are not interested in HCV treatment for the purpose of HCC surveillance and variceal screening if indicated.

Take Home Messages

- **HCV Treatment naïve mono-infected and HIV co-infected patients both had high rates of moderate/severe fibrosis and cirrhosis.**
- **Patients with HIV/HCV should be referred to specialist services for consideration of HCV treatment with new, more effective agents but also for assessment of liver fibrosis.**

References

1 G Brook, J Main, M Nelson et al. British HIV Association guidelines for the management of co-infection with HIV-1 and hepatitis B or C virus 2010 HIV Medicine (2010) 2. Coupland et al General practice characteristics associated with rates of testing and detection of hepatitis C: cross-sectional study in Nottingham and Derbyshire Br Journal Gen Prac 2006, 3. 11, 1–30 McDonald S, et al Diagnosis of HCV Infection in Scotlands IVDU population Epidemiol. Infect. (2010), 138, 393–402

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