HCV-INFECTED YOUTH CHARACTERISTICS AND REPRESENTATION IN THE CANHEPC RETROSPECTIVE NATIONAL REGISTRY

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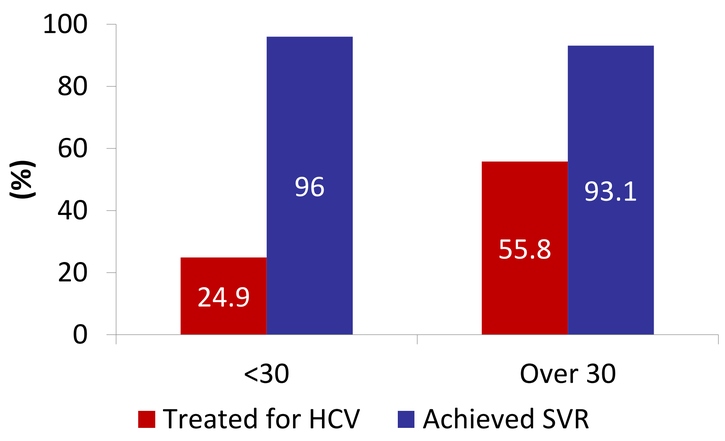
Introduction

- In Canada, most incident cases of hepatitis C virus (HCV) occur in those engaged in high risk activities including injection drug use (IDU) (1).
- Many cases occur in youth (age < 30 years), who in 2016, comprised of 23% of all cases reported to the Public Health Agency of Canada (2). HCV infection in youth is increasing in many areas due to IDU (3).
- Youth are more often newly infected and may be less engaged in harm reduction and HCV care (3). Limited data exists regarding characteristics and outcomes related to HCV in this cohort.
- As young age is often indicative of recent HCV infection, better understanding the characteristics of this population is informative to initiatives aimed at reducing HCV transmission (3).
- Recognizing different considerations exist for HCV management and follow up care in younger age groups than in older patients, the current study analyzes the representation and characteristics of youth in a national HCV registry compared to the adult population to better guide HCV care in this cohort.

Methods

- The Canadian Network on Hepatitis C (CanHepC) retrospective registry project has combined pre-existing demographic and outcome data on patients with chronic HCV who were assessed at 10 academic and community sites across Canada between 2011 and 2017.
- Participants in the registry missing age data were excluded from the analysis.
- Youth were classified as those under 30 years of age.
- Basic means, medians and proportions were calculated to compare characteristics for those under 30 years of age with those 30 years of age and over. Comparisons between groups were made using Fisher's Exact and t-tests.

Figure 1. Percentage of individuals treated and SVR in treated patient, by age group



Results

- A total of 2,371 of 2,658 individuals in the registry had data available on age (88.2% of the total data set).
- The mean age in the data set was 50.2 years (95% CI 49.7-50.8).
- Only 8.5% (n=201) were under 30 years of age.
- 24.9% of those <30 were treated for HCV. 96% reached sustained virologic response (SVR).
- 55.8% of those >30 were treated for HCV. 93.1% of these reached SVR. The differences between these cure rates were not found to be significant (p=0.420).
- Youth in the CanHepC cohort were less likely to have cirrhosis or be on opiate substitution therapy (OST), but more likely to be indigenous, have higher proportion of genotype 2 infection or be a current or past IDU. Males accounted for a greater number of patients in both the under 30 and over 30 cohort.

Table 1: Representation and characteristics between patients under 30 years and older than 30 years of age.

	Under 30 years (n=201)	30 and over (n=2170)	p-value
Mean age, years (min/max)	25.1 (18.0/29.6)	52.6 (30.0/88.3)	-
Sex, % (n)			
Male	65.0 (130/200)	71.2 (1535/2157)	0.074
Female	35.0 (70/200)	28.8 (622/2157)	
Indigenous, % (n)	23.0 (20/87)	12.4 (81/654)	**0.012**
Immigrant, % (n)	4.0 (5/126)	6.3 (60/946)	0.425
HIV, % (n)	4.4 (8/184)	5.0 (86/1705)	0.858
Cirrhosis, % (n)	1.9 (2/107)	28.0 (499/1784)	**<0.001**
IDU, % (n)			
Current	27.1 (34/144)	13.5 (167/1233)	**<0.001**
Past	64.6 (93)	43.1 (531)	
Never	8.3 (12)	43.4 (535)	
OST Status			
Current	13.3 (15/113)	27.3 (156/572)	**<0.001**
Past	44.3 (50)	27.5 (157)	
Never	42.5 (48)	45.3 (259)	
Genotype, % (n)			
1a	47.9 (80/167)	49.8 (1048/2103)	**0.015**
1b	13.8 (23)	16.1 (339)	
1 (no sub-type)	2.4 (4)	6.9 (146)	
2	6.0 (10)	7.6 (160)	
3	29.3 (49)	17.9 (377)	
4	0.6 (1)	1.1 (23)	
5	0	0.1 (1)	
6	0	0.4 (9)	
Metavir Score			
F0-F1	80.4 (86/107)	42.9 (765/1784)	**<0.001**
F2-F3	17.8 (19/107)	29.2 (520)	
F4	1.9 (2/107)	28.0 (499)	

References

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CanHepC
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Discussion

- Until recently, direct acting antiviral (DAA) therapy in most provinces in Canada was restricted to those with F2 level fibrosis. Referral and enrollment into many clinics in Canada was prioritized to those with advanced liver disease, and as such youth are under-represented in this cohort.
- High rates of IDU in youth has lead to increases in HCV transmission in North America, including clustering of HCV in both urban and rural areas with high rates of IDU (3).
- HCV infection in youth is often underdiagnosed, especially in those not engaging in medical care or harm reduction services.
- There appears to be a shift toward an increasing prevalence of genotype 3 in the younger cohort.
- With universal DAA access now available in Canada, it is hoped that treatment initiations in youth will increase. Recognizing the unique differences found between cohorts, community-based patient-centred care models that focus on medical, psychiatric, and addictions care are essential.

Conclusions

- Youth are under-represented in the CanHepC retrospective cohort. This is likely a result of previous restrictions on DAA access in Canada (>=F2) and lower engagement in care.
- The prospective national CANUCH registry will allow the CanHepC network to broaden the information available on youth.
- Unique characteristics exists among youth in the CanHepC retrospective cohort, including higher rates of IDU but engagement in OST programs, higher numbers of indigenous patients, and lower rates of treatment initiation.
- While treatment of older adults has been highly successful in Canada, the diagnosis and treatment of HCV infected youth in Canada should be a priority in coming years.

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