LATE PRESENTATION OF CHRONIC HEPATITIS C IN A SWISS COHORT OF PEOPLE ON OPIOID AGONIST THERAPY

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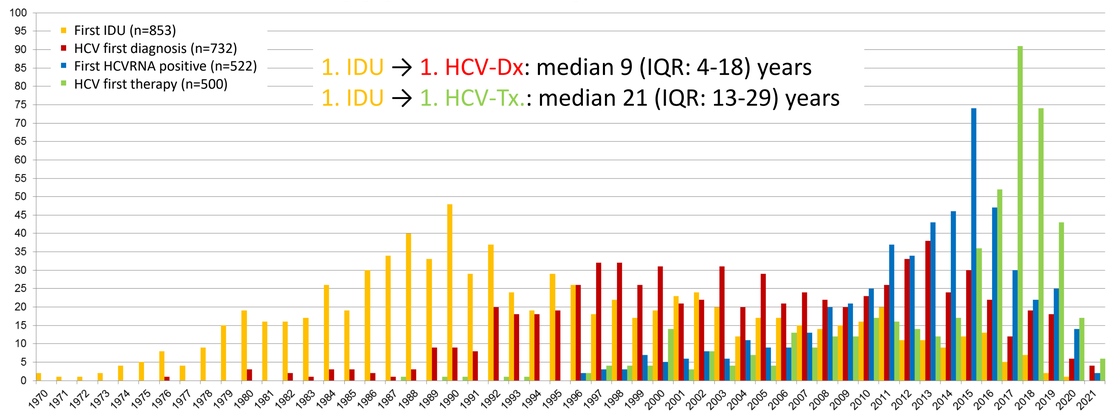
Background:
HCV Late Presenters (LP) are individuals HCV diagnosed at an already advanced stage of liver disease. Late presentation to HCV diagnosis and treatment increases liver disease-related morbidity and mortality and increases the possibility for a person to be infectious over time. The number of HCV LP in a certain population could be an indicator of progress in hepatitis care and HCV elimination.

Methods:
This study was conducted in the SAMMSU cohort enrolling patients on opioid agonist therapy (OAT) in Switzerland. We collected and described data on first injective drug use (IDU), HCV first diagnosis and HCV first treatment. We considered first IDU as surrogate marker of the time of HCV infection.
Considering HCV late presentation, it was defined as having an advanced liver disease stage (≥F3, liver stiffness >9.5kPa on elastography) at the HCV first diagnosis. We considered the time period from 2017 onwards, when access to direct-acting antiviral (DAA) treatment in Switzerland became unrestricted.

First IDU, HCV diagnosis, positive HCV-RNA and HCV-therapy per calendar year in the SAMMSU cohort



Data upon registration and follow-up, state: 21.10.2021, n=1196

Increase of HCV-Treatment-Uptake in the IFN-free HCV-therapy era: number of IFN-based (blue) and IFN-free (red) HCV-therapies per calendar year

	1.5.2017	1.10.2021
HCV-Treatment-Uptake	**62%** (200/323)	**84%** (510/608)
HCV-RNA-prevalence: **- if HCV-positive** **- whole cohort**	 **36%** (141/390) **23%** (141/624)	 **12%** (93/754) **8%** (93/1196)

Since 2016 only IFN-free

Until 2012 only IFN-based

Results:
On October 2021, the SAMMSU cohort included 1196 subjects on OAT. Overall, the median time between first IDU and HCV first diagnosis was 9 (IQR: 4-18) years (n=636), while between HCV first diagnosis and HCV first therapy was another 9 (IQR: 2-16) years. Between first IDU and HCV first therapy the median time was 21 (IQR: 13-29) years (n=452) and this corresponds to the time while people were infectious and could possibly develop liver cirrhosis.
HCV treatment-uptake increased from 62% in 2017 to 84% in 2021. At the same time, HCV-RNA prevalence among HCV-Ab positives decreased from 36% in 2017 to 12% in 2021, while HCV-RNA prevalence in the whole cohort decreased from 23% in 2017 to 8% in 2021.
Of 59 patients with HCV first diagnosis between 2017 and 2021, nobody was HIV-co-infected and 40 (68%) had chronic hepatitis C. Among the 34 patients with known fibrosis stage, 21 (62%) had no/mild fibrosis (F0/F1), while 6 (18%) were considered LP (one F3/five F4). More than two-thirds of newly diagnosed patients (40) had never been HCV-tested before. Among those tested before, the last negative test was >1 year ago in 58% (11) and >2 years ago in 42% (8). Sixteen patients were diagnosed with an HCV-antibody rapid test on capillary blood (15) or saliva (1). Among patients diagnosed with HCV between 2017 and 2021, the median time between first IDU and HCV first diagnosis was 16 (IQR: 5-26) years (n=44), with only 27% diagnosed during the first 5 years after first IDU. Once diagnosed for HCV, patients were promptly and successfully treated (treatment uptake 83% (33/40), SVR 100% (30/30)).

Characteristics of 59 HCV first diagnoses since 2017

Male	67.8% (40/59)
Ever IDU	89.7% (52/58)
Median age at first IDU (IQR)	(n=44) 20 (18-30), Range: 14-47
Year of first IDU 1970-1979 1980-1989 1990-1999 2000-2009 2010-2019	(n=44) 2.3% (1) 15.9% (7) 22.7% (10) 22.7% (10) 36.4% (16)
Median time between first IDU and HCV first diagnosis (IQR)	(n=44) 16 (5-26), Range: 1-40
Time between first IDU and HCV first diagnosis 0-5 6-10 11-15 16-20 21-25 26-30 31-35 36-40	(n=44) 27.3% (12) 9.1% (4) 11.4% (5) 18.2% (8) 9.1% (4) 9.1% (4) 13.6% (6) 2.3% (1)
Previous HCV negative test	32.2% (19/59)
Median time (year) between previous negative test and HCV first diagnosis (IQR)	(n=19) 2 (1-4), Range: 0-9
Time between previous negative test and HCV first diagnosis ≤1J ≤2J ≤5J >5J >10J	 42.1% (8/19) 57.9% (11/19) 89.5% (17/19) 10.5% (2/19) 0% (0/19)
Test material at HCV first diagnosis - venous blood - capillary blood (quick test) - Saliva (quick test)	(n=46) 65.2% (30) 32.6% (15) 2.2% (1)
Chronic hepatitis C (CHC) Spontaneous clearance Not clear/unknown	67.8% (40/59) 27.1% (16/59) 5.1% (3/59)
HCV-genotype Gt 1 Gt 2 Gt 3 Gt 4	(n=28) 39.3% (11) 0% (0) 46.4% (13) 14.3% (4)
Liver fibrosis stage according to Fibroscan, if CHC F0/1 (≤7.0) F2 (>7.0 und ≤9.5) F3 (>9.5 und ≤12.5) F4 (>12.5)	(n=34) 61.8% (21) 20.6% (7) 2.9% (1) 14.7% (5)
Median time (years) between HCV first diagnosis and HCV-therapy (IQR)	(n=29) 0 (0-1), Range: 0-3
Duration of therapy 8 weeks 12 weeks	(n=29) 44.8% (13) 55.2% (16)
If HCV-Therapy: SVR Ongoing Unknown	 100% (30/30) 1 2

Conclusion:
In our cohort of OAT patients, in the IFN-free era, one in five newly diagnosed chronic hepatitis C patients was a late presenter, highlighting insufficient HCV screening despite clear guidelines and unrestricted DAA access. In particular yearly screening was not performed to the majority of the subjects. Lack of diagnosis is still a main barrier to HCV elimination and could sustain increased morbidity and mortality of liver-related disease in OAT patients. Furthermore, late HCV diagnosis increases the risk of infection and reinfection among OAT patients. The lack of diagnosis of HCV needs to be addressed and screening strategies need to be implemented. However, in our cohort, we observed that once HCV was diagnosed, the time to cure has become short.

Disclosure of Interest Statement:
The conference collaborators recognize the considerable contribution that industry partners make to professional and research activities. We also recognize the need for transparency of disclosure of potential conflicts of interest by acknowledging these relationships in publications and presentations. Researchers has received funding from the Swiss Federal Office of Public Health. No pharmaceutical grants were received in the development of this study.