

A Nurse-Led Model Of Care For Prisoners with Viral Hepatitis: Experience From The Victorian State-Wide Hepatitis Program



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Background

There are more than 6,000 prisoners in Victoria with an estimated seroprevalence for hepatitis C (HCV) of over 40%. Prior to 2016, multiple barriers to care resulted in limited engagement with clinical services for viral hepatitis. A nurse-led state-wide hepatitis program (SHP) has been developed and implemented in 13 Victorian prisons to assess, treat and manage prisoners living with chronic viral hepatitis.

Methods

All prisoners are offered screening for viral hepatitis on prison entry and when moving between prison sites. Seropositive prisoners are referred to the SHP clinics at each site for clinical assessment by a Clinical Nurse Consultant (CNC), including measurement of liver stiffness (LSM) by transient elastography (portable FibroScan XL and M probes). CNCs conduct interviews, clinical assessments, liver stiffness measurement, and organize blood tests with participants in their local prisons. There is limited involvement by supervising Hepatologists, using both face-to-face and telemedicine consultations. Treatment must be completed within expected sentence duration.

Results – Demographics

Prisoner uptake and engagement has been excellent using the nurse-led model. Between October 2015 and July 2016, 651 prisoners have been assessed. (Table 1). The majority of referred prisoners are male (582 male / 69 female). The median age of the population is 39 years. Greater than 80% of prisoners had a detectable HCV viral load at the time of testing and would benefit from treatment. At baseline, 46% were using opioid substitution therapy (OSTP). The vast majority were using methadone. Despite being young, the prison population had a median BMI of 28.4 kg/m², in the overweight category, and 41% had a BMI > 30 and were in the obese category (WHO criteria).

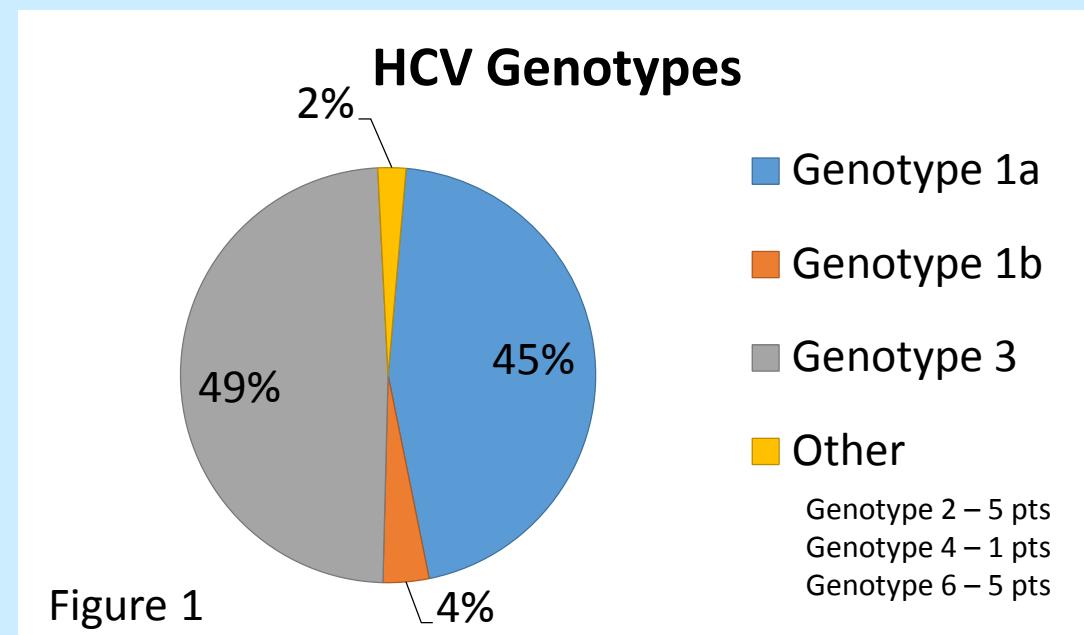
Table 1 – Patient Demographics

	Male	M %	Female	F %	Total	T %
Number	582		69		651	
Age (median)	39 (Range 21-70)		38 (Range 21-65)		39	
PCR +ve (%)	493 (85%)		40 (58%)		533 (82%)	
PCR -ve (%)	55 (9%)		13 (19%)		68 (10%)	
PCR Pending (%)	34 (6%)		16 (23%)		50 (8%)	
OSTP (%)	178/414 (43%)		19/38 (50%)		197/432 (46%)	
BMI (median)	28.5kg/m ²		26.5kg/m ²		28.45kg/m ²	
BMI >30 (%)	172/407 (42%)		11/40 (28%)		183/447 (41%)	

Note dataset not complete for OSTP and BMI

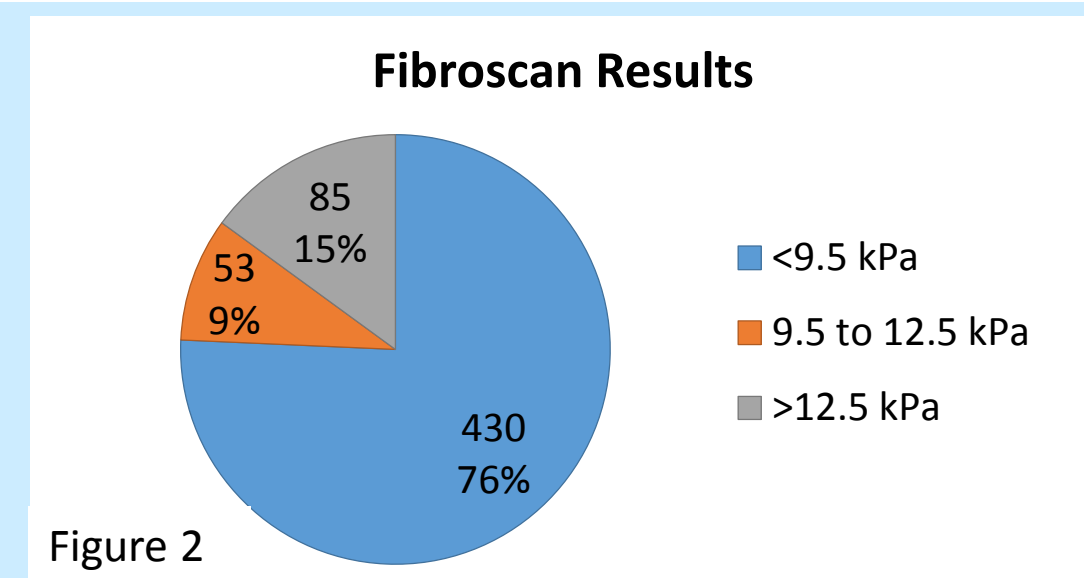
Results – Genotype

Genotype 3 HCV was most prevalent at 49%, followed closely by Genotype 1a at 45%. (Figure 1). The median viral load was 6.7 x 10⁵ IU/ml. Of the genotype 1a/1b pts 88% had a viral load <6x10⁶ and hence the majority could potentially be treated with an 8 week DAA regimen.



Results – Fibrosis

FibroScan was successfully performed in 565 patients. Valid readings were obtained in > 97% of patients (IQR/median <30% and measurement success >60%). Three patients had known cirrhosis and did not have testing. A small number of obese patients were not able to be scanned. Twenty four percent of prisoners were found to have moderate to advanced liver stiffness (liver stiffness > 9.5 kPa) and 15% had a FibroScan result of >12.5 kPa consistent with cirrhosis. (Figure 2). AST to Platelet Ratio Index (APRI) was found to be a good surrogate marker for excluding advanced fibrosis with a false negative rate of 3.6% compared with FibroScan (APRI score <1.0). Twenty six percent of patients had an APRI >1.0).



Results – Prison Sentence Duration

The median time to release from prison is estimated to be less than 9 months with the majority (>60%) to be released within one year. Prisoners who are unable to complete antiviral therapy prior to prison discharge are being linked to community care.

Conclusion

This relatively young population was found to have a high level of moderate to advanced liver fibrosis. Therefore, a model a care which provides timely and quality care to prisoners prior to their release will help reduce the development of decompensated liver disease in individual prisoners as well as the spread of HCV in prisoners who inject drugs both in and outside of the prison system. Already more than 200 patients have been treated from March until July 2016 with DAA therapy as part of the Victorian State-wide Hepatitis Program. Treatment outcomes will form the basis for future research. High level uptake of an innovative nurse-led model of care has overcome many of the barriers associated with engaging prisoners in care and treatment for hepatitis C.



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