Why Hepatitis C "Follow-Up Outpatient" Great 'til it Gotta Be Great

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Background

- Patients with substance use disorder (SUD) are at high risk of Hepatitis C virus (HCV) infection
- During admission for acute illness, patients with SUD are often screened for HCV or are already known to have untreated chronic HCV infection
- Chronic HCV treatment is not often emphasized during acute admission, so patients are referred to outpatient follow-up for HCV treatment
- Despite excellent efficacy, safety, and tolerability of direct-acting antivirals (DAA), complicated barriers to HCV treatment exist including lack of insurance, no primary care provider (PCP), limited transportation, provider unfamiliarity, drug cost, and severity of SUD amongst other psychosocial circumstances

Hypothesis:

Few patients with SUD and recommendations for outpatient follow-up for chronic HCV infection treatment on discharge summary ultimately end up being started on HCV treatment within 2 years of hospital encounter

Aim:

To investigate HCV follow-up and treatment rates in patients with SUD post-hospitalization for severe bacterial infection

Methods

- Retrospective cohort study of patients with SUD admitted for severe bacterial infection between July 2015 and March 2020 with consultation from infectious disease (ID) and addiction medicine services
  - For patients with multiple admissions during the study period, only the index hospitalization was included
- Chronic HCV infection defined as having two positive Hepatitis C viral loads tests >6 months apart
- Via electronic medical record (EMR) review, we collected demographics, location and attendance of post-hospitalization follow-up, presence of established PCP, HCV testing within 2 years of discharge, and HCV DAA, if treated
- We collected laboratory results from the EMR via SAP Business Objects Enterprise Business Intelligence Platform 4.2 (SAP America, Inc., PA, USA)
- We performed a descriptive analysis to evaluate outcomes in patients with chronic HCV infection instructed to follow-up outpatient for HCV treatment per discharge summary

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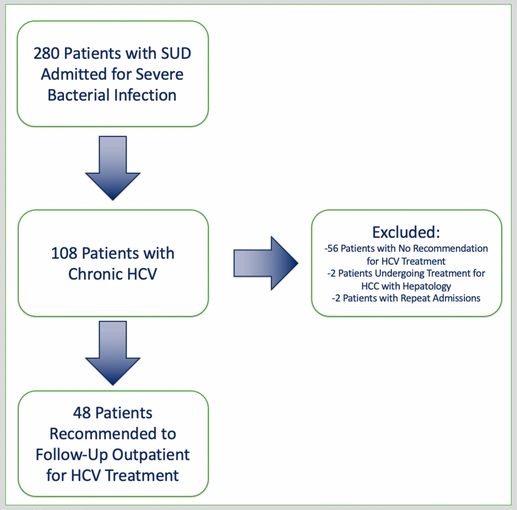
Results

Figure 1: Algorithm for Patient Inclusion in Patients with Chronic Hepatitis C and SUD Admitted for Severe Bacterial Infection Recommended to Follow-Up for HCV Treatment per Discharge Summary, 2015-2020



Abbreviations:
SUD = Substance Use Disorder; HCV = Hepatitis C Virus; HCC = Hepatocellular Carcinoma

Table 1: Post-Hospitalization HCV Follow-Up Outcomes in Patients with SUD, 2015-2020

	Number (Total=48)	Percentage
Follow-Up		
Recommended to follow-up PCP	38	79.2%
Recommended to follow-up Hepatology	10	20.8%
Made Appointment	15	31.2%
Testing Within 2 years of Discharge		
No Repeat Testing	18	37.5%
Total Retested	30	62.5%
HCV Ab Alone	1	3.3%
HCV Ab and HCV VL	10	33.3%
HCV VL Alone	19	63.3%
Treatment		
No Evidence of Treatment	41	85.4%
Established PCP Prior to Admission	5	12.2%
Evidence of Treatment	7	14.6%
Established PCP Prior to Admission	4	57.1%
Documented Treatment with 12 Week SVR	4	
†Cleared VL Likely from Treatment	2	
Documented Treatment, no SVR Confirmed	1	

Abbreviations:
PCP = Primary Care Provider; HCV = Hepatitis C Virus; Ab = Antibody; VL = Viral Load, SVR = Sustained Viral Response
† Lab and Medication Evidence of Treatment, but visit encounter documentation unavailable

Main Results

- Out of 108 Patients with HCV infection, 48 (44.4%) were instructed to follow-up for outpatient HCV treatment per discharge summary
- 15 (31.2%) patients had evidence of attending the recommended follow-up appointment
- 30 (62.5%) patients had repeat HCV testing within 2 years post-discharge
- 11 (36.6%) patients with repeat testing that included antibody testing
- 7 (14.6%) patients recommended to follow-up outpatient had documented evidence of HCV treatment initiation
- 4 (57.1%) patients started on treatment had an established PCP prior to initial hospitalization whereas 5 (12.2%) of those not treated had a PCP

Discussion

- HCV infection in patients with SUD continues to be a significant occurrence despite the ability to cure HCV with DAAs in as little as 8 weeks
- Patients with SUD often lack primary care and utilize hospital settings for healthcare needs
- When patients with SUD are admitted for severe bacterial infection, chronic HCV treatment is not emphasized, but can represent a reachable moment to engage individuals in HCV treatment planning
- A low proportion of patients initiated or completed HCV DAAs when outpatient follow-up treatment was recommended
- One-third of patients with repeat testing had an unnecessary HCV antibody screen indicating an area for diagnostic stewardship
- Our institution is exploring measures to help improve outcomes in this area:
  - Creating an order-panel to increase and improve accuracy for infection screening in patients with SUD
  - Employing a transition of treatment coordinator to ensure patients with SUD and chronic HCV have optimal access to follow-up appointments
  - Initiating patients with SUD and chronic HCV on DAAs while inpatient

Conclusion

- "Follow-Up Outpatient" alone is not a viable strategy for initiating patients with SUD on chronic HCV treatment. More pro-active approaches need to be employed and investigated (including starting DAAs while inpatient) in order to improve cure rates of HCV and prevent unnecessary sequelae including HCV cirrhosis and hepatocellular carcinoma.

References:

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