Opportunistic assessment and treatment of people with HCV infection admitted to hospital for other reasons: a prospective cohort study

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Background

- It will be essential to find novel ways to access, diagnose and treat people with HCV infection in Australia to achieve HCV elimination
- People with HCV may not present for community care
- People at risk for HCV present to hospital for non-HCV related care and hospitalisation may be an access point for HCV care

Hypothesis

- Active case finding and treatment of patients at risk of, or diagnosed with, HCV infection during hospital admission may be suitable for assessment in hospital and treatment at time of hospital discharge

Aims

- To assess the effectiveness of a registrar led HCV assessment and treatment service for patients admitted to hospital for other reasons

Methods

- Patients were referred to a single Infectious Diseases registrar after word-of-mouth promotion of the project
- The protocol included standard laboratory HCV genotyping and hepatic transient elastography (Fibroscan) for all subjects. Non-invasive markers of fibrosis were not standard of care at the time of the study
- Patients were offered treatment commencement at hospital discharge or after discharge with their GP if they had one or with the Infectious Diseases clinic or Gastroenterology clinic if they had cirrhosis
- A summary treatment recommendation letter was generated for all patients with a GP
- Per protocol, intent to treat (ITT) and modified ITT (mITT) analyses were undertaken for SVR12
- An assessment of potential efficiency gains was undertaken

Results

Figure 1. Outcomes of 100 patients referred for assessment and treatment of HCV infection.

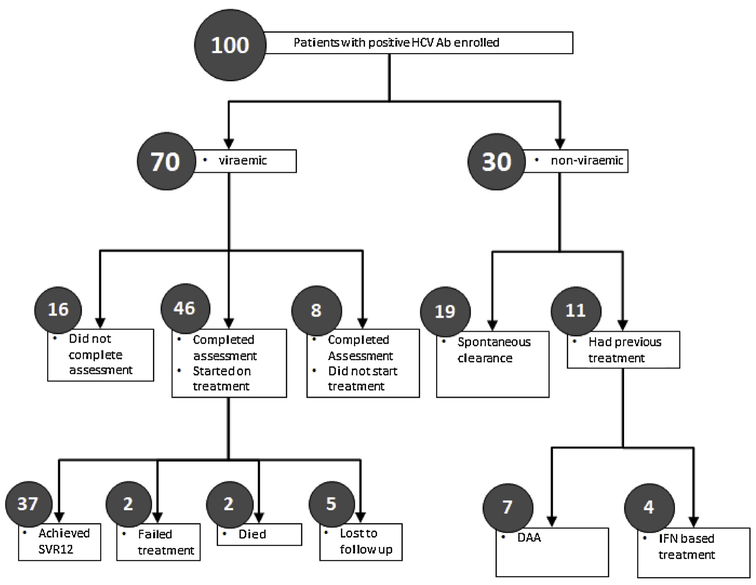

Table 1. Characteristics of 100 patients referred for assessment and treatment of HCV infection.

	All referred subjects (n = 100)	Viraemic subjects (n = 70)
Age (median years (range))	49.50 (24–87)	49 (26–82)
	n (%)	n (%)
Gender		
Male	66 (66)	49 (70)
Female	34 (34)	21 (30)
Injecting drug use		
Current	26 (26)	19 (27.1)
Previous	57 (57)	37 (52.9)
Never	17 (17)	14 (20)
On Opioid Substitution Therapy	29 (29)	21 (30)
Referred to drug & alcohol services in admission	34 (34)	27 (38.6)
Country of birth		
Australia	85 (85)	60 (85.7)
Overseas	15 (15)	10 (14.3)
Indigenous	18 (18)	14 (20)
Referral source		
Medical Teams	64 (64)	46 (65.7)
Surgical Teams	25 (25)	23 (32.9)
Mental Health	11 (11)	9 (12.9)
Principal Diagnosis		
Infection	50 (50)	38 (54.3)
Pneumonia	9 (9)	7 (10)
Soft tissue infection	9 (9)	7 (10)
Endocarditis	7 (7)	4 (5.7)
Osteomyelitis	7 (7)	5 (7.1)
Epidural abscess	3 (3)	3 (4.3)
Sepsis	3 (3)	1 (1.4)
HIV related	2 (2)	1 (1.4)
Other deep infection	10 (10)	10 (14.3)
COPD exacerbation	20 (20)	12 (17.1)
Mental health	11 (11)	9 (12.9)
Cancer	6 (6)	3 (4.3)
Injecting drug use related	4 (4)	2 (2.9)
Trauma	3 (3)	3 (4.3)
Elective surgery	2 (2)	1 (1.4)
Other[a]	4 (4)	2 (2.9)
Regular GP identified	73 (73)	52 (74.3)
Previous loss to HCV follow-up	18 (18)	15 (21.4)

- **SVR12 response rates**:
  - Per protocol 94.8% (37/39)
  - ITT 80.4% (37/46)
  - mITT 84.1% (37/44)*

* 2 subjects LTFU after completion of treatment

Results

Table 2. Assessment of viraemic inpatients referred for assessment and treatment of HCV infection.

	n (%) or median (range)
Proportion with complete assessment	54 (77.1)
Proportion with incomplete assessment	16 (22.9)
TE not done[a]	16
Neither TE nor genotype done	6
Co-infection	
HIV	6 (8.6)
HBV	3 (4.3)
Genotype	
1	28 (40.0)
2	2 (2.9)
3	30 (42.9)
4	2 (2.9)
Mixed (1 & 3)	2 (2.9)
Cirrhosis status in viraemic patients who underwent TE	
Cirrhotic (kPa > 12)[b]	16 (22.8)
Non-cirrhotic (kPa < 12)	38 (54.3)
Cirrhosis status in viraemic patients who did not undergo TE	16 (22.8)
Non-cirrhotic (APRI < 0.49)	10 (14.3)
Cirrhosis indeterminate (APRI 0.5-1)	1 (1.4)
Possible cirrhosis (APRI 1.1-2)	3 (4.3)
Cirrhosis likely (APRI > 2)	2 (2.9)
Time from initial assessment to Fibroscan (days)	2 (0.08–20)
Time from initial assessment to HCV viral load result (days)	4 (1–20)
Time from initial assessment to HCV genotype result (days)	13 (4–27)
Length of stay of people who completed assessment (days)	12 (1–288)
Length of stay of people who did not complete full assessment (days)	10 (1–159)

Table 3. Outcome after assessment of 70 viraemic inpatients.

	n (%) or median (range)
Incomplete assessment and lost to follow-up	16 (22.9)
Completed assessment but did not start treatment[a]	8 (11.4)
Completed assessment and started on treatment	46 (65.7)
Completed assessment while still an inpatient and discharged with DAA	21 (30.0)
Achieved sustained virologic response (SVR12)	37 (52.9)
Failed treatment	2 (2.9)
Died while on treatment[b]	2 (2.9)
Lost to follow-up (before or after treatment completion)	5 (7.1)
Lost to follow-up after completion of treatment	2 (2.9)
Lost to follow-up before completion of treatment	3 (4.3)
Time from assessment to treatment commencement (days)	59.5 (2-443)
Prescribed regimens	
Sofosbuvir + Daclatasvir	28
Sofosbuvir + Ledipasvir	16
Elbasvir + Grazoprevir	1
Dasabuvir, Ombitasvir, Paritaprevir and Ritonavir	1
Prescription by	
Infectious Diseases (study team)	27
Gastroenterologist	10
General Practitioner	9
Follow-up after starting treatment	
Infectious Diseases	19
General Practitioner	14
Gastroenterologist	13
Follow up	
Duration of follow-up (days) in those with viraemia	213 (27-771)

Summary

- Detecting and treating people with HCV infection when admitted to hospital for other reasons is reasonably effective
- The model may be more efficient:
  - if we only accept viraemic referrals
  - if we use non-invasive markers of fibrosis
  - if we could prescribe without HCV genotyping
  - if we could treat as inpatients

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