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CASE REPORT

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Partnering with charity-care services to manage cirrhosis with ascites in an adult experiencing homelessness: A case report

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Abstract

Charity care services can be an important tool for reducing healthcare disparities among populations with housing instability.

KEYWORDS

alcohol use disorder, ascites, cirrhosis, homelessness

1 | INTRODUCTION

Persons with housing instability or homelessness face increased barriers to accessing and maintaining medical care, healthy lifestyles, and quality living conditions. In the context of these inequities, alcoholic liver disease (ALD) with cirrhosis can be especially challenging to manage. We present the case of a 54-year-old male referred to our local free clinic who developed new-onset homelessness due to inability to work because of debilitating ascites from ALD with cirrhosis.

The homeless population often struggles with accessible health care, especially during the COVID-19 pandemic, when this case occurred. Homelessness and health interact in paradoxical ways in that poor health can lead to homelessness, and homelessness results in or complicates poor health.[1] Quality of life and experience with health care is often complicated by the social determinants of health, which can be especially challenging for those with unstable housing.[2–4]

While cirrhosis can be due to multiple risk factors, alcohol abuse is associated with approximately 50% of cirrhosis cases.[5,6] Liver disease due to alcohol misuse disorder is complex and readers are encouraged to see statements published by the American College of Gastroenterology discussing the management of alcoholic liver disease.[5,7] Medical nutrition therapy providing adequate calories and protein, sometimes with additional enteral nutrition supplements, and frequent visits to health care providers are integral parts of the treatment plan for those with ALD. Additionally, patients with ascites also benefit from sodium-restricted diets.[8–10]

2 | CASE REPORT

Yakima County is a geographically large, medically underserved, and mostly rural region serving as an important agricultural center in the Pacific Northwest United States.[11,12] The community's only free medical clinic provides charity-based primary care to adult patients who cannot pay for health care, reports over 9200 patient visits annually. The clinic, based partly out of a renovated hotel, also has a shelter for homeless individuals and families,

in addition to four rooms reserved for temporary medical housing for homeless patients with acute and severe medical conditions. The clinic also has a kitchen providing free meals three times daily to residents of the mission and daytime visitors.[13]

Our patient was referred from a local federally qualified health clinic (FQHC). In the United States (US), FQHCs are medical organizations that qualify for special funding from the US government under the Public Services Health Act. They serve underserved communities or populations, typically offer a sliding scale fee system, and provide comprehensive primary care services. Our patient presented to the free clinic with chronic liver cirrhosis and ascites secondary to alcohol use disorder on January 15, 2021. The patient worked in the area's agricultural fields, which included climbing up and down ladders throughout his workday. However, his ascites and abdominal pain made it impossible to continue working. He lived with a roommate, until he had to move out due to inability to pay rent because of his declining health status. The patient identified as a 54-year-old male and reported a long history of drinking eight beers a day. Further alcohol history was not provided, but he did report that he had stopped drinking. Medical history also included type 2 diabetes with an unknown diagnosis date. The patient had no transportation, so he walked to the local emergency department (ED) several times prior to starting care at the free clinic to receive therapeutic abdominal paracentesis for ascites.

The patient was referred to the area's only gastroenterology group, but new patients were not being accepted. Therefore, we consulted regularly over the phone with our local liver specialist who works for the local gastroenterology clinic, which is not formally affiliated with our area FQHC's or our free clinic. She manages our free clinic's cirrhosis patients locally and she assisted us with medical and medication management of this patient. Upon beginning his care with the free clinic, the patient was taking spironolactone 100 mg and furosemide 40 mg daily. He was also started on metformin 850 mg daily.

Upon initial examination, the patient presented with an observable distended, taught, non-tender abdomen. Other physical exam findings were normal, except for scleral icterus; mild jaundice; umbilical hernia; and skeletal muscle wasting. Due to the ascites, our patient's body mass index was 28.43 kg/m^2. The patient had a hepatitis panel in 2014 at the FQHC, which showed non-reactive hepatitis B surface antigen (AgHb), hepatitis B core antibody (anti-HBcor), and hepatitis C antibody (anti-HCV). He was not checked for hepatitis D. An alpha-fetoprotein level was not obtained.

He was offered temporary medical housing at the free clinic due to homelessness and acute severe ascites. Managing ALD with cirrhosis and ascites includes a low salt (2 gm sodium per day), high protein, low fructose diet, and avoidance of malnutrition,[8–10] which was provided as best as possible by the clinic's kitchen. Therapeutic paracentesis was done by the clinic providers when indicated. Upon initial evaluation, the patient's degree of cirrhosis was scored as: Child Class C and upon discharge, the patient's Child Class score was revised to Class A. He initially came in with class III ascites in January 2021 and improved to Class I ascites by discharge. His only ultrasound was done in December 2020 before we took over his care. The ultrasound reported hepatic morphology suggestive of cirrhosis with recommended clinical correlation. There was moderate ascites but no evidence of splenomegaly and the pancreas not well-visualized. No other imaging (e.g., computerized tomography (CT) or magnetic resonance imaging (MRI) scan) was available. No assessment of fibrosis status via FibroScan or Fibromax was available. Other vital signs, physical exam, and laboratory details are presented in Table 1.

Our patient's overall status improved and by September 2021, after 7 months living onsite in the clinic's medical housing, he was able to resume working and find housing with a friend. Upon departure from the clinic, the patient was instructed to continue the meal plan as he had been receiving to control the ascites. Lactulose (20 mg twice daily) was also added to his regimen.

3 | DISCUSSION

Complex and chronic diseases like ALD with cirrhosis and ascites require careful management, which can be exceptionally challenging for patients with unstable housing and healthcare access. Barriers to preventative care and chronic disease management services are common and difficult for many to overcome without assistance.[3,14] Close follow-up is warranted, ideally from gastroenterology and primary care to prevent worsening progression of the disease and avoid complications.[4,14]

The complications of cirrhosis had impaired our patient's ability to work and caused interruptions in earning income and maintaining housing. Persons living in unstable housing circumstances are at significant risk for exacerbation of chronic conditions, and much less likely to qualify for organ transplant.[3,15] Without addressing these important social determinants of health, he was unable to properly manage his advancing cirrhosis.

4 | CONCLUSION

This unique collaboration between the patient, various local healthcare stakeholders, including a FQHC, a charity-based clinic and homeless shelter, and the local

TABLE 1 Patient physical exam, vitals, and clinical characteristics.

Admitting vital signs			
Date:			**2021 January**
Blood pressure:			136/82
Patient position:			Sitting
Pulse:			118
Respirations:			20
Temperature:			36.9°C (98.4 °F) (oral)
SpO2 (oxygen saturation):			99%, room air
Weight:			64 kg (141 lb)
Height:			1.5 m (4′ 11.06″)
LABS	**Normal**	**Baseline values, December 2020**	**Discharge values, September 2021**
Glucose (Fasting)	70–100 mg/dL	103 mg/dL	150 mg//dL
Albumin	3.5–5.5 g/dL	2.0 g/dL	2.9 g/dL
Blood urea nitrogen (BUN)	8–20 mg/dL	12 mg/dL	8 mg/dL
Creatinine	0.7–1.3 mg/dL	0.58 mg/dL	0.49 mg/dL
Chloride	98–106 mmol/L	96 mmol/L	93 mmol/L
Potassium	3.5–5.0 mmol/L	3.7 mmol/L	4.0 mmol/L
Sodium	136–145 mmol/L	126 mmol/L	124 mmol/L
Total bilirubin	0.3–1.2 mg/dL	3.7 mg/dL	1.2 mg/dL
Total protein	6.0–7.8 g/dL	8 g/dL	6.8 g/dL
Alanine aminotransferase (ALT)	0–35 units/L	25 units/L	24 units/L
Aminotransferase (AST)	0–35 units/L	59 units/L	42 units/L
Alkaline phosphatase (ALP)	36–92 units/L	205 units/L	181 units/L
MELD[a]	6–40	25	Not available
PLT[b]	150,000–450,000 platelets per microliter	162	115
INR[c]	1.1 or below	1.3	1.1
Hemoglobin	13.2–16.6 grams/dL	12.2	9.1
Hematocrit	38.3%–48.6%	35.4	27.8
PT	11–13.5 seconds	16.8	Not available
(GGT)[d]	8–38 units/L or 8–38 international units (IU)/L	480	Not available

[a]Model for End-Stage Liver Disease (MELD).

[b]platelets.

[c]international normalized ratio.

[d]Gamma-glutamyl transferase was only reported once in 2016.

gastroenterology service, played a key role in this patient's recovery. He was able to reduce the ascites, improve his quality of life, and regain independence. This also translated into fewer visits to the local ED. We believe this story illustrates how cooperation and communication using diverse community stakeholders can be effective and meaningful for patients. We were able to provide personalized, evidence-based care for this patient, despite the limitations of our free clinic and patient's low-resource situations. Moreover, this case shows how we can help mitigate health disparities among homeless individuals using creative and collaborative approaches.

AUTHOR CONTRIBUTIONS

Danzhu Zhao: Data curation; investigation; writing – original draft; writing – review and editing. **Hannah Wilson:** Conceptualization; data curation; investigation; writing – review and editing. **Kathaleen Briggs Early:** Conceptualization; supervision; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

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DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analyzed during the current study.

ETHICS STATEMENT

This study was deemed non-human subjects research by our Institutional Review Board as this is retrospectively presented for a single patient. The patient consented to the authors presenting this case report.

INFORMED CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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