Behavioral Treatment for Patients With Alcohol-Related Liver Disease: A Primer for Hepatologists

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KEY POINTS

- Alcohol use disorder (AUD) in patients who develop alcohol-related liver disease or cirrhosis always warrants treatment for the AUD that underlies said liver disease.
- A multidisciplinary approach to AUD treatment, one that involves both the hepatologist and the substance abuse specialist and includes both behavioral treatment and pharmacological therapy, is quintessential in preventing alcohol relapse.
- We aim to delineate the practical evidence-based knowledge of behavioral treatment for hepatologists.

Alcohol-related liver disease (ALD) can be protean in manifestation from simple steatosis to alcoholic hepatitis (AH) and cirrhosis, but its cause is straightforward and dose dependent. In spite of our understanding of its cause, mortality from alcohol-related cirrhosis (AC) increased 18% from the year 2000 to 2013.1 Cirrhosis-related mortality increased by 10.5% annually from 2009 to 2016 in people aged 25 to 34 years and was primarily due to ALD, resulting in unacceptable consequences to the labor force and society.2

Patients who develop ALD or AC always warrant treatment for AUD, and the importance of abstinence

Abbreviations: AC, alcohol-related cirrhosis; AH, alcoholic hepatitis; ALD, alcohol-related liver disease; AUD, alcohol use disorder; CBT, cognitive behavioral therapy; DSM-V, Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; ESLD, end-stage liver disease; HE, hepatic encephalopathy; LT, liver transplantation; MET, motivational enhancement therapy; MI, motivational interviewing; RCT, randomized controlled trial; TAU, treatment as usual.

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cannot be overstated. In the Steroids or Pentoxifylline for Alcoholic Hepatitis trial, the largest randomized controlled trial (RCT) for the management of AH to date, only 37% of its participants reported complete abstinence at 1-year follow-up. This observation underscores that we can do more to facilitate alcohol abstinence and AUD treatment. Nonpharmacological AUD treatment has a critical role in ALD and can be instrumental in inducing and maintaining abstinence. We aim to outline the major categories of behavioral treatment as a primer for the practicing hepatologist.

BEHAVIORAL TREATMENT STRATEGIES

The first step of AUD treatment is to screen for AUD and to classify its severity (Table 1). In general, the degree of AUD is important in selecting which behavioral treatment to use. More severe AUD requires more structured and sustained behavioral treatment regimens.

Behavioral treatment is a set of strategies (depicted in Fig. 1) led by health professionals in identifying individual maladaptive behavior and in employing all available resources to remain abstinent. The evidence underlying different behavioral treatment strategies in ALD is scarce and mainly observational, but the available evidence can help prioritize strategies based on efficacy and accessibility. A few RCTs have evaluated behavioral treatment specifically in the context of ALD; we summarize these in Table 2. These RCTs are not consistently positive studies in favor of behavioral treatment, but the key takeaway is that brief motivational interventions appear to be less effective than multiple-session structured treatment integrated with the hepatology practice.

The following subsections outline specific behavioral treatment strategies for ALD.

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) takes place over several sessions and focuses on identifying and managing the cues that lead to drinking to modify the thought processes underlying AUD. Specific CBT techniques include training coping skills, drug-refusal skills, and increasing nonuse-related activities. CBT is most consistently shown to increase abstinence in AUD and is supported by an RCT and observational studies in ALD.

Motivational Interviewing and Motivational Enhancement Therapy

Motivational interviewing (MI) is a therapeutic counseling style aimed at evoking the patient’s own motivation for change. It provides a method to focus on the patient’s own circumstance and lessens the paternalistic environment of the clinician’s office. Harm reduction is a core tenet of AUD treatment, and MI facilitates dialogue under nonjudgmental conditions.

Motivational enhancement therapy (MET) is performed over several sessions where the therapist, similar to use of MI, evokes self-motivated cessation strategies that are monitored and encouraged over time. MET has mixed

| TABLE 1. CLASSIFICATION OF SEVERITY IN AUD AND CORRESPONDING TREATMENT STRATEGIES |
|-------------------------|----------------|----------------|
| **Severity of AUD**    | **No. of DSM-V Criteria** | **Possibly Effective Behavioral Treatment** | **DSM-V Criteria for AUD** |
| At risk                | <2             | Brief intervention | 1. Ended up drinking more or longer than you intended in one sitting. |
| Mild                   | 2 or 3        | Brief intervention, mutual support | 2. Wanted or tried to cut down but could not. |
| Moderate               | 4 or 5        | Mutual support, contingency management, MI/MET, CBT | 3. Spent a lot of time drinking or suffering from its aftereffects. |
| Severe                 | ≥6            | Mutual support, contingency management, MI/MET, CBT | 4. Experienced a strong craving to drink. |
|                        |               |                    | 5. Found that drinking or being sick from drinking interfered with your family, social, or professional responsibilities. |
|                        |               |                    | 6. Continued to drink despite trouble with family/friends. |
|                        |               |                    | 7. Had to decrease participation in activities that were important or interesting to you in order to drink. |
|                        |               |                    | 8. More than once have gotten into situations while or after drinking that increased your chances of getting hurt (such as driving, swimming, using machinery, walking in a dangerous area, or having unsafe sex). |
|                        |               |                    | 9. Continued to drink even though it was leading to depression, anxiety, exacerbation of another health problem, or after having had a memory blackout. |
|                        |               |                    | 10. Had to drink much more than you once did to get the effect you want, or found that the usual number of drinks had much less effect than before. |
|                        |               |                    | 11. Presence of withdrawal symptoms (i.e., trouble sleeping, shakiness, irritability, anxiety, depression, restlessness, nausea, sweating, or sensed things that were not there) as the effects of alcohol were wearing off. |
results in RCTs in terms of abstinence in ALD, but appears to decrease the frequency and quantity of drinks.5,6

Contingency Management

Contingency management is based on the theory of reinforcement where patients are rewarded to reinforce abstinence.9 Examples of rewards can range from housing for the homeless to mitigation of sentences in alcohol-related offenses. To date, contingency management has not been studied specifically in ALD.

Mutual Support

The strategy of mutual support is based on creating a reliable, healthy social network that fosters a “sober environment” where the patient can enjoy positive associations with social experiences that do not include alcohol. Specific examples include Alcoholics Anonymous, Smart Recovery, and religious group meetings, which are accessible therapies in terms of cost and expertise.8 Mutual support has the added benefit of social support that is not as prominent in CBT and MI/MET. Mutual support is often the standard of care for AUD and is the cornerstone of usual care in most RCTs.

Brief Intervention

In a brief intervention, a physician or therapist identifies alcohol use, sets a goal with the patient, and teaches a behavioral modification technique to promote abstinence. Although less time-consuming and more intuitive, there is
little evidence for brief interventions in moderate-to-severe AUD. Compared with more structured sessions, brief interventions are less likely to help in ALD.8

**TREATMENT INTENSITY**

Behavioral treatments are used in many settings, often in a multimodal approach. The setting is most analogous to the “level of care” in medicine; it can involve inpatient treatment, residential rehabilitation, intensive outpatient program, peer-support groups, or individual counseling. Furthermore, there are methods that combine behavioral treatments in a structured program such as reinforcement-based treatment, which incorporates contingency management and components of CBT. Fig. 2 summarizes a decision flowchart in deciding behavioral treatment strategies for referral according to severity of AUD.

**LIVER TRANSPLANT CANDIDATES**

Patients with end-stage liver disease (ESLD) or severe AH who are candidates for liver transplantation (LT) should remain completely abstinent. If LT is ultimately performed for ALD, alcohol relapse is associated with an increased rate of allograft loss and fibrosis.11 Historically, hepatic encephalopathy (HE) and lack of motivation were considered obstacles in the behavioral treatment of AUD before LT.12 Our approach for the treatment of AUD in LT candidates would emphasize evoking and maintaining motivation with MI/MET as the cornerstone of behavioral treatment together with other behavioral treatment modalities. At the same time, aggressive medical treatment for HE and other complications of ESLD should be a focus because it reduces cognitive disability and demoralization.

Two important differences in AUD treatment for LT candidates can be discerned from available literature and should be applied to practice whenever possible. First, behavioral treatment programs integrated with the hepatology practice, rather than those referred to outside practitioners, correlated with improved abstinence and mitigated severity of relapse.6,13 Second, behavioral treatment continued after LT is associated with a decreased risk for relapse.14

**CONCLUSION**

Our ultimate goal is to help patients realign their socialization with a common cause rather than with drinking; with that in mind, we should incorporate methods to include patients’ social network and support in maintaining a sober environment. Although we listed all of the earlier-mentioned strategies individually, in reality they are often used simultaneously and at different levels of care (inpatient versus outpatient). AUD treatment is most effective when clinicians use a sustained multidisciplinary and structured approach. It is particularly important in the LT population for whom the stakes are highest.

**FIG 2** Decision flowchart for behavioral treatment strategies according to severity of AUD: What can you do? *Multidisciplinary approach entails substance abuse specialist will be involved, and multimodal means there at least should be mutual support plus CBT, contingency management, or MET.*
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REFERENCES


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