TABLE 3. Performance of Biomarkers of Alcohol Use in Alcoholic Liver Disease. Direct Comparison of Test Performance Characteristics in Patients with Alcoholic Liver Disease Before and After Liver Transplantation

	Sensitivity	Specificity	PPV	NPV
Andresen-Streichert[42]				
%CDT	21% (6-45)	100% (96-100)	100% (39-100)	—
Urine EtG	71% (41-91)	98% (94-100)	90% (58-99)	95% (89-98)
Hair EtG	84% (54-98)	92% (82-97)	68% (41-89)	96% (88-99)
PEth	100% (79-100)	96% (91-99)	85% (62-96)	100% (96-100)
Staufer[43]				
%CDT	25%	98%	64%	93%
Urine EtG	89%	99%	89%	99%

Abbreviations: NPV, negative predictive value; and PPV, positive predictive value.

patients, however, will be reluctant to see a professional mental health provider. For patients who are ambivalent about alcohol cessation, motivational interviewing has been shown to help patients change behaviors, including alcohol use.[60] A new online resource developed by NIAAA is now available to help people and their families recognize AUD and find high-quality care through an easily accessible and user-friendly web-based system, the NIAAA Alcohol Treatment Navigator.[61]

PSYCHOSOCIAL AND BEHAVIORAL APPROACHES TO ALCOHOL USE DISORDER TREATMENT IN PATIENTS WITH ALD

There are a wide variety of alcohol use disorder treatments available to patients, although relatively few have been studied in patients with ALD. Major categories of treatment include inpatient alcohol rehabilitation, group therapies, individual therapy, family/couples counseling, and mutual aid societies (such as Alcoholics Anonymous). Within counseling sessions, various modalities of treatment are available that target different mechanisms of behavior change. These include cognitive-behavior therapy (CBT), motivational interviewing, motivational enhancement therapy (MET), contingency management, 12-step facilitation, network therapy, and couples/family counseling.[24]

Psychosocial treatment has been studied in a limited fashion in ALD. A recent systematic review of treatment trials in ALD found that integrating AUD treatment providers alongside medical providers in clinic produced better abstinence rates than usual care, which typically means a referral to a treatment provider outside the liver center.[62]

Types of AUD treatment evaluated in both randomized and observational trials include CBT, MET, psycho-education, and motivational interviewing, with modalities combined in varying ways in each trial. Five randomized controlled trials (RCTs) were reported, three of which enrolled patients with AC exclusively and only one of which showed statistically significant benefit with an integrated intervention combining alcohol use disorder treatment with medical care.[63-65] Other observational studies evaluated psychosocial interventions for patients with HCV and AUD and showed modest improvement in abstinence with integrated care, again producing improved outcomes.[66-69] However, there are few data to show that one treatment modality is consistently superior to another across all categories of populations.[70] Based on these findings, integrated, multidisciplinary care remains the best option for management of advanced ALD and AUD, although it may not be practical in all resource settings.[71]

RELAPSE PREVENTION MEDICATIONS

Pharmacotherapy for AUDs includes both Food and Drug Administration (FDA) and non-FDA approved medications provided in Table 4. There are three FDA-approved medications: disulfiram, naltrexone, and acamprosate. The number needed to treat to prevent return to any drinking is estimated