Liver Transplant—Psychiatric and Psychosocial Aspects

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Liver transplantation is a life saving surgical procedure that is associated with improved longevity and enhanced quality of life. The number of successful liver transplants is growing worldwide. The procedure requires a dedicated and trained team of experts. A psychiatrist plays an important role in such a team. Psychiatric and psychosocial assessment is considered imperative to evaluate the candidate's suitability as a transplant recipient. Many psychiatric disorders may lead to the need for liver transplant, and if kept unchecked can adversely affect outcomes. Psychiatric problems arising in the post-transplant period may also require intervention of the psychiatrist. The donor too needs to be evaluated adequately to assess for psychological fitness for the procedure. This article provides broad overview of the various psychiatric and psychosocial issues pertaining to liver transplantation. (J Clin Exp Hepatol 2012;2:382–392)

After the advent of potent immunosuppressants, the number of solid organ transplants has increased substantially.[1] The organs that are transplanted from one person to another include kidneys, liver, heart, lungs, and pancreas among others. The field of transplant medicine has emerged as a growing specialty and has seen many innovative procedures, surgical techniques, and improved aftercare measures.[2] Encouraging results have been obtained, with better patient outcomes and longevity.

Since the conduct of first successful liver transplant in 1967, the number of liver transplants has grown steadily over the decades. It is now being conducted all over the world in increasing counts. Although around 6000 liver transplants are conducted in the United States in a year,[3] the number of cases requiring transplant on the waiting list are far more than the number of procedures done in a year. With the live donor liver transplantation, the numbers of liver transplantations conducted has increased significantly.

The procedure of liver transplantation is carried out by a team of experts and specialists, who endeavor to improve outcomes by playing a role before, during and after the surgery. The psychiatrist/mental health professional can have a very important role to play in such a team. There can be mental health issues that lead to the liver transplant in the first place, for example, liver damage due to alcohol dependence or a suicidal attempt in which person intentionally takes overdose of acetaminophen leading to hepatic failure. Once the decision for liver transplant is taken, waiting for transplant may lead to anxieties about survival and availability of the organ.[4] Patients may be apprehensive about asking potential donors for help in case of live donor transplantation.[5] The transplant procedure as well the conditions leading to it can be quite stressful for the patients and may have psychiatric and psychosocial implications. Post-transplant, patients require regular compliance to lifelong immunosuppressants and modification in lifestyle, including abstinence from alcohol. All these factors challenge the coping of the patients, and increase the likelihood of emergence of psychological symptoms. The psychiatrist/mental health professional with expertise in dealing with such problems, would be placed at a unique position to contribute to enhanced patient care, and improved outcomes. This review provides a broad overview of the various psychiatric and psychosocial issues pertaining to liver transplantation.

PSYCHIATRIC DISORDERS IN PRE-TRANSPLANT PHASE

Patients with liver failure requiring liver transplantation can have various psychological and psychiatric problems. Timely identification and treatment of these can lead to improvement in condition of the patient, thereby optimizing the pre-operative fitness. An important aspect of evaluation is the proper documentation of the same. It not only serves the purpose of record keeping, but helps in clearer decision-making regarding management of psychiatric condition and better communication with other members of the treatment team. It is in general suggested that treatment recommendations need to be made, taking into consideration all the pertinent aspects of a particular patient.

The most commonly encountered psychological problems include alcohol use disorders, opioid use disorders, anxiety disorders and depressive disorders. Alcohol liver

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disease (ALD) is one of the commonest reasons for undergoing liver transplantation.[6,7] In most of such cases of ALD, diagnosis of alcohol dependence is tenable.[8] Debate has continued as to whether and when ALD patients should be considered for transplantation. Some argue from a moralistic standpoint that since alcohol had been consumed by a person willfully leading to complications,[9] so scarce grafts should not be expended on alcohol users. Others assert that there is no difference in survival of ALD transplant cases as compared to others, and a majority of patients with ALD do abstain from alcohol after transplantation.[10–12] Hence these patients should be considered for transplantation. Currently most centers require some duration of abstinence from alcohol before consideration for transplantation.[13] The requisite duration varies from center to center. It has been seen that longer abstinence prior to transplantation reduces the chances of relapse after the transplant.[14,15] However, other studies have shown that early transplant, even during the acute alcoholic hepatitis phase, is also associated with greater survival benefit over 2 years.[16] Interestingly, early transplantation has been found as a protective factor against relapse to alcohol when compared to cirrhotic patients on wait list.[17] Thus, deserving ALD patients should be offered transplantation.

Apart from pre-transplant abstinence, many other factors have been assessed as predictors of relapse to alcohol use post-transplant. These include a family history of alcohol use,[18,19] personality disorders[20,21] and poly-substance abuse.[18,22] Another important aspect is presence of psychiatric comorbidity in patients with ALD undergoing liver transplant. Studies have shown that presence of antisocial behavior and eating disorder increases the chances of relapse in the post-operative phase.[20] In a review of literature, it was found that social stability, older age, good compliance with medical care, absence of repeated alcohol treatment failures, absence of alcohol problems among first-degree relatives, absence of current polydrug misuse, and lack of co-existing severe mental disorder were associated with longer abstinence in the post-operative period.[23] Duration of pre-operative abstinence appears to be a poor predictor of abstinence despite extensive research and wide usage.[23] Intravenous drug use also has an important relationship with need for liver transplantation. It is an important risk factor for contracting Hepatitis C, which is among commonest reasons for liver transplantation. Hence drug dependence, especially of injectable drugs like opioids and cocaine, needs to be carefully screened. One study suggests that outcome of intravenous drug users with Hepatitis C related liver transplantation is not substantially different from non-drug users.[24] Poly-substance use disorder however, has been seen to adversely affect the outcome in ALD. In a study of liver transplant patients it was seen that approximately one third of the transplanted poly-substance users relapsed to substance use.[25]

Opioid users have been traditionally considered unsuitable for liver transplantation. In a mailed survey of transplant programs,[26] it was noted that approximately only half of the programs accepted patients on methadone maintenance. Of those, a significant proportion required that the methadone be tapered off before the transplant. However, some authors have argued against the same.[27] Studies done in patients on methadone maintenance treatment (MMT) in general show that tapering off of MMT results in relapse to illicit opiate use in 80% of patients.[28] Hence, asking the patients to taper off methadone at the time when they are dealing with the stress and pain of end-stage liver disease and are facing liver transplant may increase the risk of relapse. Further, if a patient relapses, he or she would be removed from the list of those eligible for transplantation. Studies have also shown that in general there is no difference in the MMT liver transplant recipients and general transplant population with regards to adherence to immunosuppressive medications and overall graft survival rates.[26,29,30] Hence such patients should be evaluated on a case to case basis and methadone can be safely continued in the post-transplant period in the usual doses. Those patients who are on stable adequate doses of methadone, follow other measures of MMT program and have excellent social support should be considered for liver transplant.

Many studies have been conducted to assess depressive symptoms in patients awaiting liver transplantation.[31–40] The sample sizes of such studies have ranged from 20 to 247.[31–40] Various instruments have been used to measure and diagnose depression including self-rating scales like Beck Depression Inventory; clinician rated scale like Hamilton Depression Rating Scale and structured interviews with professionals. The rates of depression have varied from 4.5% [31] to 64%.[33] The different measures for assessing depression and different methodologies of assessing (self versus clinician rated) can account for some of the variance in prevalence of depression. In a comparatively large study by Bianchi et al[35] with relatively rigorous methodology, significant depressive symptoms were present in approximately 57% of the sample using Beck Depression Inventory. Attempt have also been made to differentiate the rates of depression relating to different etiologies of cirrhosis, with some studies reporting higher, whereas others reporting lower or no difference in the rates of depression in patients with viral etiology for cirrhosis compared to other etiologies.[27,28,31] Identification of depression in the pre-transplant phase is important, because there is some evidence to suggest that presence of depression in the pre-transplant period is associated with non-adherence with treatment.[41]

Studies have also delved into the occurrence of anxiety disorders and adjustment disorder in patients awaiting liver transplantation. Different methods have been used to measure anxiety like Beck Anxiety Inventory, Hospital