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The limits of philosophy in liver transplantation

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Abstract At the Editor's request, Dr. Beresford reviews the paper by Martens, with particular reference to the clinical literature on liver transplantation in alcoholism. He concludes that abstract concepts, such as responsibility for one's illness, may have some theoretical value in academic discussions but that no studies support any direct practical usefulness for them in patient selection for solid organ transplantation. Rather, a sizeable body of work delineates a practical clinical approach to the evaluation of alcohol-dependent persons who request liver transplantation. He highlights the relevant aspects of this work briefly.

Keywords Alcoholism · Liver transplantation · Prognosis · Drug abuse

Introduction

In the current issue, Willem Martens [6] objects to a view published by Glannon [4], that alcoholics should receive low priority for the liver transplant procedure because they themselves are responsible for the liver disease brought on by their heavy drinking. Martens' objections include 1) that personal responsibility is part of behavior and that behavior is determined by brain neurochemistry rather than ideas, 2) that alcoholic drinking may be an adaptation to terrible social surroundings and 3) that alcoholism itself may be only a part of a larger brain disorder that obviates true choice of illness.

First, both Martens and Glannon are to be commended for leaving sin, moral defect and eternal damnation out of the discussion, as might have been included one hundred or more years ago. At the same time, however, neither commentator betrays much knowledge of alcoholism (referred to hereafter as alcohol dependence) as a clinical entity with symptoms, course, progression, and with a probable neurochemical explanation, if not present cure. My discussion will examine the questions Martens raises with respect to current alcohol use research and its clinical application in decisions for transplant candidacy. I hope to discuss these issues in practical terms and leave explorations of the ether for those interested in it. My bias is that modern science is here preferable to modern scholasticism.

Is an alcoholic responsible for his or her liver failure?

When only 10%–15% of heavy alcohol drinkers develop Laennec's cirrhosis (alternatively, "alcoholic cirrhosis") that leads to liver failure [7], it is impossible to conclude that alcohol use alone causes liver failure in even the heaviest drinking alcoholic patients. Most hepatologists believe that heavy and sustained alcohol exposure is a necessary condition for cirrhosis, but only in a vulnerable liver. What accounts for the liver's susceptibility to alcoholic injury? Most evidence suggests one or more molecular genetic explanations that have yet to be defined. In the meantime, should we deny transplantation to patients only because they were born with livers genetically vulnerable to alcoholic cirrhosis? Since no alternative treatment exists, this would mean certain death meted out solely on the basis of liver genetics. I

doubt that most reputable ethicists or philosophers would see much wisdom in such an approach.

Does the presence of alcoholic liver disease mean that a person has alcohol dependence?

We found that alcohol-induced liver failure and alcohol addiction coincide in only 70% to 80% of presumed alcoholics who requested liver transplantation [2]. Put another way, about one out of every four applicants with apparent alcoholic cirrhosis will not meet criteria for alcohol dependence. This means that anyone seeking to provide or to limit access to liver transplantation for a particular alcohol-dependent person had better be very sure of the alcohol dependence diagnosis in that individual case. Neither philosophical abstractions nor musings from experience have a place in this serious clinical process. Science holds the first place, as judged by the usefulness of current diagnostic criteria for alcohol dependence [1,10] These standards provide our best and most reliable guides to establishing the presence of this condition in a specific case. They assess the symptom areas of ethanol tolerance and withdrawal, loss of control of ethanol use, and social or physical decline related to uncontrolled use. Alcoholic liver failure applies only as one example in the last of the four categories.

If a person is alcohol-dependent, does he choose to drink?

Prevailing knowledge argues both Martens' and Glannon's views simultaneously. For most clinicians, the diagnosis of alcohol dependence requires behavioral evidence of the Loss of Control (alternatively, Impaired Control) phenomenon. This means that once a drinking episode has begun, the person suffers the inability to stop the drinking, that is, to control this part of his or her behavior. Impaired Control may occur in episodes or as a consistent behavioral feature, depending on how far a person has progressed along the course towards greater impairment of the nervous system. Loss of Control is at the heart of all substance dependence disorders, from nicotine and caffeine to marijuana to cocaine and heroin.

With respect to alcohol dependence, our best current understanding is that a balance point between the brain systems mediating reward and those mediating stress (or physiologic punishment, as in the case of alcohol withdrawal) has been altered in such a way as to require the presence of the abused substance to effect homeostasis [5]. Where before alcohol produced a subjective reward in the alcohol naive central nervous system (CNS), for the alcohol-dependent person who is actively drinking it is now a requirement for stable nervous system functioning. The alteration of this balance may be specifically expressed in tolerance, where the reward systems of the CNS require higher and higher levels of ethyl alcohol for their activation, and withdrawal, where the CNS stress systems rebound with increasing violence when the alcohol is removed. From this point of view, the alcohol-dependent person's ability to choose not to drink, once an episode has begun, appears to be severely limited by their altered brain functioning, at least in part, because the homeostatic balance point in their central nervous system has shifted.

But what about the time between episodes of alcohol use, after the withdrawal period has passed? For those who suffer alcohol addiction, this is the land of choice. Drinking or not drinking are the two possible options. The principle problem in alcohol dependence at this juncture is that of ambivalence towards alcohol use and how to resolve it. As veterans of sobriety will attest, the internal struggle over whether or not to start drinking is as changeable as a parliamentary vote, going this way or that. Recovery occurs only when the body politic begins voting continuously for abstinence and against the alcohol use that leads to Loss of Control. Does personal responsibility for alcohol dependence exist here? Most would say that it does. Certainly, the law courts say so when judging injury or death committed while drinking: a person is responsible for his actions, including his drinking. Is the choice not to drink something that is once made and forever held to? Or is it a progressive process with remitting and relapsing episodes until the series of consistent, sometimes daily or hourly, choices occur? A longitudinal study clearly defines the latter as the characteristic pattern of recovery [9]. At what point along a continuum of choice should we place the burden of responsibility for liver disease? Plainly, the phenomenological process of alcohol dependence and recovery does not fit a theoretical abstraction of personal (or moral) responsibility, although it contains both positive and negative elements of what we might call individual accountability for drinking behavior. It is reasonable, therefore, to conclude that the last question cannot be answered in our present state of understanding. It behooves us instead to focus on clinical phenomenology in our evaluations for liver transplantation.

But alcoholism is a genetic condition. How can it involve choice or responsibility?

For this, one must look at what is inherited. To date, an inborn insensitivity to the effects of alcohol on the CNS consistently suggests a vulnerability to alcohol dependence with a believably large magnitude of effect [8]. This means simply that persons born with a natural insensitivity to ethanol may develop dependence more easily than those who are naturally sensitive to it's ef-

fects. But once the Loss of Control gateway has been passed, once the homeostatic balance point has been moved toward uncontrolled drinking, the genetic bases for alcoholism seems to carry much less clinical meaning. Whether those with natural insensitivity suffer a more severe course or more difficult recovery, for example, has not been shown. The existence of this kind of genetic susceptibility, like that of genetic vulnerability in the liver, suggests that personal responsibility for alcohol dependence is made up of many factors and may not reflect a condition that can be characterized as either black or white.

Then all alcoholic people suffer the same course and can proceed to the same recovery?

No. As Martens points out, alcohol dependence may affect many disparate groups of people. Those with the most optimistic progression from alcohol dependence to stable, long term abstinence are persons who had no other behavioral or brain pathology before they developed dependence. Their yearly natural recovery rates are in the range of 30%, and this rate can be approximately doubled with treatment [9]. The least optimistic are generally those with poly-drug dependence beginning in adolescence or childhood: their annual natural remission frequency ranges around 10% with or without treatment unless this includes a significant degree of external behavioral structure [9]. Somewhere between are those with injury to the structures of the brain (as in Wernicke-Korsakoff syndrome and dementia disorders) or to its functions (as in bipolar illness and other major psychiatric conditions). All such confounding phenomena must be assessed and accounted for in deciding on whether or not a particular person should be a transplant candidate. As with suicidal persons, so with alcoholic people: it is not enough to say that a person has a right to drink or to kill himself. The clinical evaluation must be done, including differential diagnosis, and appropriate treatment must put in place. This means that transplant candidacy depends on empirically derived diagnosis and prognosis rather than on vague notions of personal responsibility or its lack.

Can prognosis for alcohol dependence be judged clinically?

This is probably the most important assessment transplant teams make, difficult though it often is. Having participated in about a thousand of them over the past 14 years myself, I can say that the process is never comfortable. We rely on 1) clinical diagnosis, 2) measures of social stability, 3) assessment of the ambivalence to alcohol use, and 4) four factors that Vaillant [9] found to be associated with long term abstinence. Each of these is founded in empirical evidence and the clinician will find detailed descriptions of them elsewhere [2]. Each patient receives the assessment when the history suggests a possibility of problematic alcohol use. As many as one in six alcohol-dependent persons who request liver transplant may be turned down because their prognostic assessment for long term abstinence is bleak. Those refused may still be sent to alcoholism treatment and, if appropriate, re-evaluated at a later time.

The object is to minimize those factors thought to set the transplanted organ at the highest risk for failure and the patient for consequent death. In the case of alcoholic liver disease, the two primary risks include alcohol injury to the transplanted organ and organ rejection because of poor compliance with the anti-immune regimen. Our experience indicates that the latter is the more common of the two, and characteristically occurs one or more years after transplantation [3]. If uncontrolled drinking returns, patients pay less attention to taking their medicines, and rejection ensues when the defenses against their own immune response lower. The best prevention measures for this appear to be careful evaluation before transplantation and continued contact thereafter.

Isn't alcoholism an adaptation to difficult or painful social circumstances?

It is the exact opposite. For optimal adaptation, one needs optimal brain function. It is abundantly clear that alcohol dependence reduces brain function from its optimum to something much less when ethanol use is ongoing. This may include the shift in behavior that focuses on ensuring a steady supply of imbibed alcohol, on the avoidance of withdrawal symptoms, and on blaming others or one's external circumstances for the problems that result from uncontrolled use itself. Because of this shift in focus from the problems of life to the problems of feeding one's alcohol addiction, continuing use in a dependent patient prevents successful behavioral adaptation.

Should alcoholics receive low priority or be left out of consideration because of their responsibility for their disease?

Not until someone invents the Responsibil-O-Meter and can demonstrate that it is 100% accurate in predicting abstinence for a minimum of 7 years. Present outcome studies put post-transplant abstinence rates at 90% after 1 year and 75%–80% after 3 years for alcohol-dependent persons without poly-drug dependence, major psychiatric disorder, or brain injury [3]. Further,

survival statistics indicate that alcohol-dependent recipients do as well as, or better than, non-dependent recipients. Evaluation for candidacy should reflect each patient's medical and psychiatric state. Medical acuity then indicates the transplantation procedure, once the patient is put on the waiting list.

Conclusion

The responses to the questions above may offer little of relevance to those who wish to discuss the philosophical or ethical implications either of alcoholism or of solid organ transplantation. If this is true, the questions and answers imply that the philosophical discussions themselves have been too narrow. They appear to have resulted from theories of meaning and behavior that are far too simple to include reasonable consideration of either alcohol dependence or liver transplantation allocation. To those who wish to enlarge their understanding in these areas, I recommend working for 2 years or more in a reputable alcoholism treatment facility and then spending another year working with a liver transplant team. This may take some time and effort but, in the words of an old television advertisement, "Try it. You'll like it." I also suggest that the substance of one's philosophical contributions to the field will be a direct function of the time and effort spent in observing and understanding the phenomena involved. This is because, for those of us who face the difficult assessments and decisions regularly, clinical science so far seems to have been the best practical guide; social or philosophical theorizing has been the worst.

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