**WSA Discussion of 2022-343**

**Reviewing Patient-Reported Outcomes 1-Year After Orthotopic Liver Transplantation**

**DR CHARLES ROSEN** (Rochester, MN): As surgeons, we treat patients with 2 aims, to help them live as long as possible and to help them live the best quality of life; in other words, to add life to their years and years to their lives. It is easy to assess survival, which is the focus of most of our studies and publications. Assessing quality of life is much more difficult but equally important. Dr Ahmed and her colleagues at Washington University have shown us that the use of the Patient Reported Outcomes Measurement Information System, or PROMIS, is an excellent tool to assess quality of life. This paper will serve to set a new standard on how we should study quality of life, not just after liver transplantation but after all operations.

Have you found a difference in score based on disease, severity of illness, or presentation? I would be interested to know whether scores vary with different diagnoses, malignant vs nonmalignant disease, patients with and without addiction, Model for End-Stage Liver Disease (MELD) score at the time of transplantation, or acute vs chronic presentation. Your findings have the potential to improve treatment of patients after transplantation. Do you intend to do that, and if so, how? If you were to measure PROMIS score before transplantation, do you think that individual patient score could potentially improve patient selection? Are you planning to do that, and if so, do you think the pretransplantation score could trigger intervention intended to improve results after transplantation?

**DR MAJELLA DOYLE** (St Louis, MO): This is our first foray into using PROMIS in our transplant population, so we have not yet gone into the details regarding MELD and other patient factors, such as disease and opiate addiction. I think these are hugely important, and in our next tranche, when we start looking at this prospectively, we plan to stratify the patients in more detail. I think it is very important to consider that a patient with a high MELD score may well have a poorer outcome posttransplantation, however, high MELD score patients often receive the best livers, so you have patients who are coming for liver transplantation who have a lot of chronic problems and may end up in many ways having worse outcomes. And patients who develop complication posttransplantation, who may have a low MELD beforehand, may well have more issues posttransplantation. I think it will help trend our postoperative recovery pathways and plans for these patients afterwards.

Even with this small study, and without the stratification that we discussed above, we still have a lot of opportunities we did not realize, particularly in the mental domains of the PROMIS data. Sleep disturbance and anxiety are some of the biggest things that we see getting worse over the 12-month period. So yes, we are planning not only to have physical function pathways for recovery but also to focus on mental function after transplantation. This is something that we have certainly done very poorly in the past. It is difficult to achieve for patients, but it is an area that we really want to focus on.

As to the pretransplantation data, we certainly plan to collect it, and our plan going forward is to collect data pretransplantation as well as at several time intervals posttransplantation. I do not think we would necessarily use it as a selection tool for patients, as to whether they would undergo transplantation, but there is certainly the opportunity to consider patients for prehabilitation in the various domains. We at Washington University are developing a very robust prehabilitation program for patients for all operations, not just for transplantation. But it is mostly based on physical function, so, if we consider adding fertility scores and things like that, I think we would have a huge opportunity to focus on some of the mental health and other social aspects to improve patient outcomes.

I also think PROMIS, because it is standardized to the US population, gives us for the first time a picture of where our posttransplantation patients stand in relation to the general population, and they are clearly doing quite well. But we have more opportunities to set expectations for these patients pretransplantation, based on the data collection. I think by setting expectations, we can improve their satisfaction postoperatively. It has been demonstrated that by setting the right expectations, you will probably have a better or more satisfying outcome than you would if you expected to achieve something that you may not, postoperatively.

**DR MARK TALAMONTI** (Evanston, IL): In terms of patient-reported outcomes, there have been some reports that postoperatively, midlevel provider clinics (those run by advanced nurse practitioners or physicians’ assistants), can improve the recovery of those patients with the simple act of calling and communicating with them, so they are able to diagnose when patients are having psychologic and physiologic problems sooner than if the patients waited for those postoperative visits. I wonder if, at your institution, you have invested economically and conceptually in the use of midlevel providers to improve patient-reported outcomes.

**DR MAJELLA DOYLE** (St Louis, MO): They are hugely important personnel to help drive this forward. For our posttransplantation patients, we mainly have nurse coordinators who are the go-betweens with the patients. One of our most recent recruits in the midlevel field came from another institution, where they had all midlevels managing the patients postoperatively, and according to her, the patient satisfaction levels are very good based on that. So, I agree, it is an investment, but it is also a worthwhile one.

In addition, we are initiating calls and connecting with patients within 48 hours after operation whenever possible to try to reduce readmission, allay patient fear, and address concerns that patients may have postoperatively. I think pre-emptively contacting patients and staying in close touch with patients helps lead to better patient satisfaction and better outcomes.