Texas Liver Institute
The Road to A Healthier Liver

TLI Quarterly

MARCH 2024

CONTENTS

INTRODUCING ANDRÉS GÓMEZ-ALDANA, TRANSPLANT HEPATOLOGIST

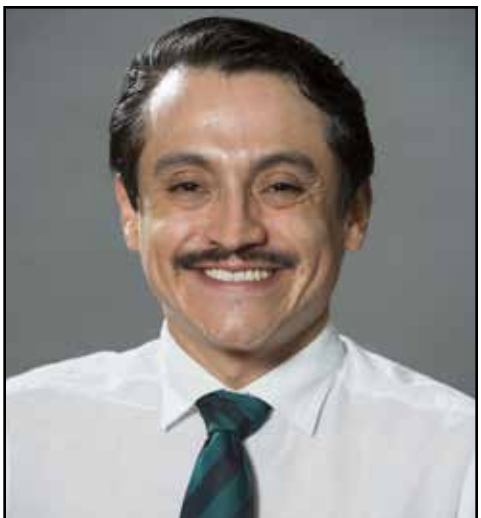
The Texas Liver Institute is thrilled to welcome Dr. Andrés Gómez-Aldana to our team of providers servicing San Antonio, Corpus Christi, and Laredo. Dr. Gómez-Aldana is a highly qualified medical professional with a distinguished background in gastroenterology and transplant hepatology. His journey in the medical field began at the prestigious National University of Colombia, where he earned his medical degree. Driven by a passion for liver health, he embarked on a journey of specialized training and academic excellence.

Dr. Gómez-Aldana completed his Internal Medicine and Gastroenterology training at Universidad Javeriana in Bogotá, Colombia, honing his skills and knowledge in these critical fields. His commitment to excellence led him to seek further expertise, and he pursued a gastroenterology fellowship in transplant hepatology at the esteemed University of Toronto.

To broaden his scope of practice and contribute to holistic patient care, Dr. Gómez-Aldana also undertook advanced training in Clinical Nutrition at McMaster University in Hamilton, Canada. This comprehensive approach allows him to address the complex needs of his patients with precision and empathy.

Dedicated to advancing the field of liver disease study and treatment, Dr. Gómez-Aldana actively participates in professional organizations such as the American Association for the Study of Liver Disease (AASLD), the European Association for the Study of Liver (EASL), and the Latin American Association for the Study of Liver Diseases (ALEH). His involvement in these organizations demonstrates his commitment to staying at the forefront of medical advancements.

Dr. Gómez-Aldana serves as the coordinator for ALEH's young researchers committee, where he mentors and guides the next generation of medical professionals in their pursuit of excellence. With a record of accomplishment of academic achievement, clinical expertise, and active involvement in liver disease organizations, Dr. Gómez-Aldana is a trusted expert in the field of gastroenterology and hepatology. His passion for improving patient outcomes and advancing medical knowledge continues to drive his impactful career.



SUGAR, SWEETENERS, AND LIVER CANCER: SEPARATING FACT FROM FICTION

While the sugary drinks and liver cancer connection has emerged, the picture remains complex. Studies link frequent consumption of sugar-sweetened beverages to a higher risk of hepatocellular carcinoma (HCC) and death from chronic liver disease, potentially due to their contribution to obesity, insulin resistance, and steatotic liver disease. Artificial sweeteners present a less conclusive story, with large studies showing no significant association with HCC risk, but the 2023 WHO report classified aspartame, a common sweetener, as "possibly carcinogenic."

A recent prospective cohort study by Zhao et al. (*JAMA* 2023;330:537-546) investigated the association between sugar-sweetened and artificially sweetened beverage consumption with HCC risk in women. Following a cohort of 98,000 women for two decades, the study identified 200 cases of HCC. Notably, daily consumption of more than one sugar-sweetened beverage was associated with a 50% increase in relative HCC risk. However, no significant association was detected between artificially sweetened beverage intake and HCC development. Given these findings, the authors caution against diverting attention from well-established risk factors like sugar-sweetened beverages towards artificially sweetened alternatives as potential contributors to liver cancer. Instead, they emphasize the importance of ongoing efforts to educate patients about the detrimental effects of excessive sugar-sweetened beverage consumption and encourage its reduction to mitigate chronic liver disease and HCC risk.

CIRRHOSIS AND NUTRITION: MORE FOOD FOR THOUGHT

Malnutrition is a common clinical syndrome in chronic liver disease and worsens in severity as liver disease progresses. It encompasses a spectrum of nutritional disorders and, importantly, includes a range of body mass index (BMI) spanning underweight to morbid obesity. Malnutrition occurs in up to 20% of patients with compensated cirrhosis and 50% of patients with decompensated cirrhosis. While malnutrition negatively impacts the course of cirrhosis, it is severely under-recognized (*Clin Nutr* 2006;25:180–186. 10.1016/j.clnu.2006.02.007). There are distinct operational definitions for malnutrition, frailty, and sarcopenia however, in clinical practice, these three constructs are often recognized simultaneously and have significant overlap.

Many factors contribute to malnutrition, defined as the imbalance (deficiency or excess) of nutrients that results in measurable adverse effects on body form, function, and clinical outcomes. Key factors include:

1. Chronic liver disease: Chronic inflammation, alcohol exposure increasing muscle autophagy, insulin resistance in metabolic dysfunction associated steatotic liver disease (MASLD, formerly NAFLD) and cholestasis in biliary diseases may all lead to malnutrition.
2. Cirrhosis-related: Cirrhosis itself results in hypermetabolism, altered catabolic state and protein metabolism, and malabsorption, which is often further exacerbated by portal hypertensive enteropathy.
3. Inadequate dietary intake: Environmental factors including food insecurity and insufficiency contribute to poor dietary intake; this is coupled with functional problems including early satiety with abdominal distention and frequent, inadvertent fasting in the setting of repeated hospitalizations.

The prevalence of frailty and sarcopenia in cirrhosis ranges from 18-43% and 40-70%, respectively, and worsens over time in most patients (*World J Gastroenterol.* 2015 Jul 7;21(25):7637-47. doi: 10.3748/wjg.v21.i25.7637). Simply put, frailty in cirrhosis is the clinical state of decreased physiologic reserve with clinical manifestations of decreased physical function, decreased functional performance, and disability. Sarcopenia in cirrhosis is loss of muscle mass. The loss of muscle function leads to loss of muscle mass, and vice versa thus lends to a natural overlap between the two conditions.

Assessment of frailty varies from subjective, survey-based tools by patient/caregiver or provider to objective, performance-based measurements. One commonly used tool is the Liver Frailty Index (LFI; https://liver-frailtyindex.ucsf.edu/) which when utilized in conjunction with clinical assessment, improves mortality risk prediction when compared with clinical assessment alone (0.74 vs 0.68; P=0.02) (*Am J Gastroenterol.* 2018 Feb;113(2):235-242. doi: 10.1038/ajg.2017.443. Epub 2017 Dec 12).

Targeting malnutrition, in theory, improves frailty, sarcopenia, and ultimately patient outcomes. Several small studies have demonstrated dietary counseling and oral protein nutrition supplementation improves muscle strength and function. Unfortunately, studies have failed to demonstrate significant differences in liver function, decompensation rates or mortality. In most studies, patients did not meet the recommended guidelines of daily protein intake of 1.2-1.3 g/kg/day, likely contributing to the lack of benefit (*J Hepatol.* 2019 Jan;70(1):172-193. doi: 10.1016/j.jhep.2018.06.024). Studies regarding inclusion of a late evening snack in patients with cirrhosis are more conclusive and have demonstrated improved clinical outcomes in longer-term studies.

Malnutrition, frailty, and sarcopenia are associated with higher rates of cirrhosis complications and premature mortality. It remains potentially reversible but further research is needed to truly understand the ideal nutritional status in patients with cirrhosis. Current recommendations that can be easily implemented into busy clinical settings to address malnutrition in patients with cirrhosis include:

1. Small, frequent meals and snacks (5-7/day)
2. High protein intake (1.2-1.5 g/kg/day)
3. Late evening snack containing high protein
4. Oral nutrition supplements (e.g. protein shake) when unable to meet the recommended requirements.

EARLY INTERVENTION SAVES LIVES: THE CRUCIAL BENEFIT OF EARLY PARACENTESIS IN HOSPITALIZED CIRRHOTIC PATIENTS

For patients battling cirrhosis and ascites, timing is everything. Studies overwhelmingly support the critical role of early paracentesis within 12 hours of hospital admission. This simple procedure significantly improves outcomes, saving lives and reducing healthcare burden. (1) Mortality falls sharply: Research shows a clear reduction in in-hospital death rates (by approximately 30% - 50%) when paracentesis happens early. Removing fluid enables early diagnosis and treatment of life-threatening complications, such as spontaneous bacterial peritonitis (SBP). (2) Faster recovery and shorter stays: Early paracentesis leads to quicker symptom resolution and shorter hospital stays (by several days), reducing costs and improving patient experience. (3) Complications kept at bay: Studies reveal a decreased risk of electrolyte imbalances, kidney failure, and other complications with early intervention. Timely fluid removal improves kidney function and prevents cascading problems. (4) Decreased readmission rate: Early paracentesis reduces 30-day readmission rates in some patients, possibly due to earlier diagnosis and treatment of SBP and fewer complications such as acute kidney injury (AKI) and hepatorenal syndrome (HRS).

Despite overwhelming evidence, practice often lags behind research. Rates of early paracentesis remain low, highlighting the need for improved implementation and awareness among healthcare professionals. In a large, national study including 10,000 patients with cirrhosis hospitalized with a diagnosis of ascites, less than one-quarter received any paracentesis, and only 14% received early paracentesis (Patel et al., *Liver Transplantation* 2023; 919-927). Late paracentesis (after 24 hours) or no paracentesis was associated with ~2x the risk of SBP, AKI, variceal bleeding, ICU admission, and mortality. It is likely that timely diagnosis and treatment of SBP, or the exclusion of SBP, resulted in appropriate therapy to prevent AKI/HRS, the need for ICU, and inpatient mortality. The low rate of paracentesis is attributable to a lack of awareness, logistical issues, and competing medical issues, particularly in cirrhotics with high MELD scores.

In conclusion, early paracentesis is a safe, effective intervention with clear benefits for cirrhotic patients admitted with ascites. It saves lives, shortens hospital stays, decreases complications, and reduces readmissions. Bridging the gap between research and practice is critically important to ensure more patients with cirrhosis and ascites receive this life-saving intervention early.

TLI EXPANSION TO SHAVANO PARK

TLI is excited to announce the opening of a new office located at 4318 De Zavala Road, Suite 403, San Antonio, TX 78249. Drs. Eugenia Tsai and Jan Petrasek will see patients exclusively here. This includes office visits with them as well as with their nurse practitioners and physician assistants.

OUTREACH CLINICS IN CORPUS CHRISTI AND LAREDO

TLI, along with University Health, is excited to announce the launch of two outreach clinic locations: Corpus Christi (5022 Holly Road, Ste 106, Corpus Christi, TX 78411) and Laredo (4151 Jaime Zapata Memorial Highway, Ste 101, Laredo, TX 78043). Already known for liver care in San Antonio and Austin, TLI continues to meet patients' needs in South Texas by giving them access to comprehensive liver disease management in their own community. General hepatology care, such as the treatment of viral hepatitis, hepatic steatosis, cirrhosis, and liver masses, is offered in addition to serving liver transplant candidates and recipients.

The clinics are staffed by transplant hepatologists Fred Poordad, MD and Andrés Gómez-Aldana, MD as well as transplant hepatology nurse practitioners Corrie Berk, DNP and Allyssa Castillo, DNP.

To schedule patients fax referrals to (210) 237-4807. You can use your own form or download our form from www.txliver.com.

TLI San Antonio North (pictured left) and TLI Austin (pictured right)

THE LIVER SPOT: MELD 3.0

As of July 2023, the organ allocation system for liver transplantation underwent a significant update with the implementation of the Model for End-Stage Liver Disease 3.0 (MELD 3.0).

This revised model aims to improve the accuracy of predicting mortality risk among waitlisted patients, thereby optimizing decision-making in organ allocation. MELD 3.0 achieves this improved risk stratification by incorporating additional factors such as gender and albumin levels, along with revised weighing coefficients for established variables like creatinine. Notably, the creatinine cap for patients with renal dysfunction has been lowered from 4 mg/dL to 3 mg/dL. This comprehensive approach is anticipated to decrease waitlist mortality and promote greater equity in organ distribution.

In summary, adopting MELD 3.0 represents a critical advancement in liver transplantation, potentially saving lives and ensuring fairer access to this lifesaving treatment.