Enhanced Screening for ADHD in Patients with Alcohol Use Disorder and Alcohol-Associated Liver Disease: A Retrospective Cohort Study Assessing Preventative Potential in Liver Transplantation

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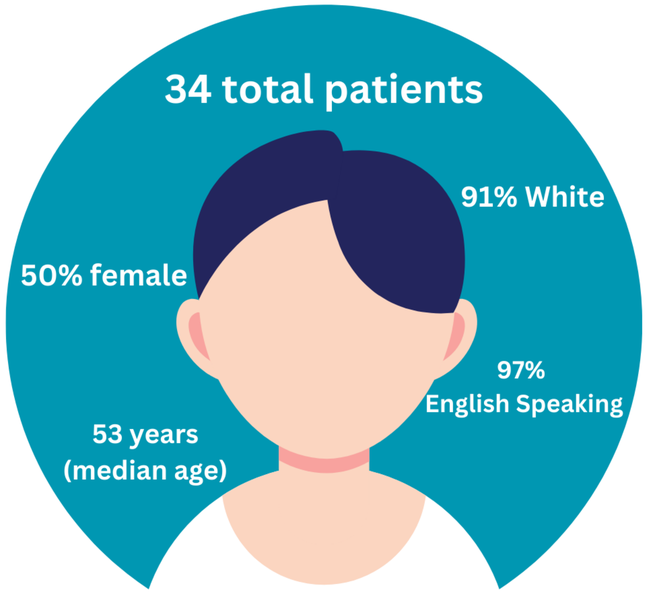
INTRODUCTION

- **ADHD and Substance Use Disorders**
  - Attention Deficit Hyperactivity Disorder (ADHD) is widely recognized as a significant risk factor for the development of substance use disorders, including Alcohol Use Disorder (AUD). Individuals with ADHD are more susceptible to developing AUD, and research indicates that effective treatment of ADHD can lead to improved outcomes for those struggling with AUD. This highlights the crucial intersection between these two conditions and the potential benefits of addressing ADHD in individuals with AUD.
- **Current Guidelines and Gaps**
  - Despite the established link between ADHD and AUD, current treatment guidelines for AUD do not include standardized protocols for screening ADHD. The lack of a formal screening process represents a potential gap in care that may compromise the overall success of AUD treatment programs.
- **Impact on Morbidity**
  - The underrecognition and undertreatment of ADHD in individuals with AUD may inadvertently contribute to the global burden of AUD-related morbidity. A severe consequence of untreated AUD is alcohol-associated liver disease (ALD), which has become the leading indication for liver transplantation worldwide. Addressing ADHD in patients with AUD could potentially mitigate some of the morbidity associated with ALD, emphasizing the importance of comprehensive care approaches.

METHODS

- **Study Design**
  - We conducted a retrospective cohort study at Massachusetts General Hospital's Long-term individualized Follow-up after Transplant (LIFT) Clinic. This clinic is focused on preventing return to drinking in patients transplanted for alcohol-associated liver disease. Our study focused on patients with alcohol-associated liver disease (ALD) who received orthotopic liver transplantation (OLT) from 2016 to 2023.
- **Data Collection**
  - Patient data were gathered from electronic medical records, providing comprehensive information on the prevalence of ADHD among the study population.
- **ADHD Screening**
  - ADHD screening was routinely implemented in post-transplant follow-up. This screening included clinical interviews and the Adult ADHD Self-Report Scale (ASRS).
- **Addressing Cognitive Impairment**
  - Given the potential cognitive impairment associated with liver disease, we took extra precautions to ensure that positive ADHD screenings reflected symptoms that originated in childhood or adolescence. This approach helped distinguish between ADHD and cognitive deficits related to liver disease or transplantation.
- **Ethical Considerations**
  - All procedures were conducted in strict accordance with ethical guidelines to protect patient confidentiality and ensure the integrity of research. Informed consent was obtained where required.

RESULTS



Demographic Information of Patient Population

73% of patients with childhood onset ADHD were never previously diagnosed

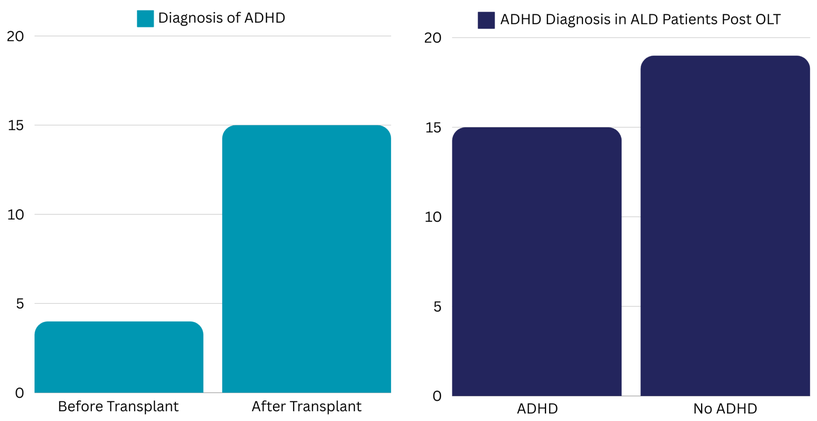


Figure 1: ADHD diagnosis timing (left) and ADHD prevalence (right). Note: Among the four patients diagnosed with ADHD before LT, half were treated solely during childhood.

DISCUSSION

- **High Prevalence of ADHD**
  - Our cohort revealed a high ADHD prevalence of 44%, with the majority remaining undiagnosed or untreated before orthotopic liver transplantation (OLT). This finding highlights the need for increased awareness and screening for ADHD, particularly in populations affected by AUD and ALD.
- **Contrast with Global Estimates**
  - This prevalence sharply contrasts with the global adult ADHD estimate of 7%, underscoring the importance of targeted screening efforts in high-risk groups to ensure timely intervention.
- **Impact of AUD and ALD**
  - Given that AUD ranks as one of the most prevalent substance use disroders and is a leading cause of ALD, the potential impact of undiagnosed ADHD on exacerbating alcohol use and liver disease becomes apparent.
- **Proactive Screening Recommendations**
  - If effectively implemented, proactive ADHD screening could potentially decrease the need for OLT by addressing underlying issues that contribute to the development of these disorders.
- **Timing of Diagnosis**
  - The majority of ADHD diagnoses occurring after OLT raises important questions about the recognition and management of ADHD in the transplant setting.

CONCLUSION

- **Necessity of Addressing ADHD**
  - There is a critical need to address ADHD in patients undergoing OLT, especially those with AUD and ALD.
- **Integration into Comprehensive Care**
  - Incorporating ADHD management into a comprehensive care plan may improve clinical outcomes for these patients.
- **Broader Health Implications**
  - Effective management of ADHD has the potential to alleviate the broader burden of substance use disorders and liver disease.

REFERENCES

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