Utility of Routine Pre-Operative Abdominal Ultrasound in Detecting Diet- Resistant Metabolic Dysfunction-Associated Steatotic Liver Disease in Bariatric Surgery Patients

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Background & Innovation

- A large proportion of patients undergoing bariatric surgery exhibit concomitant Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD), detectable by abdominal ultrasound
- Despite this, routine use of abdominal ultrasound in the pre-operative workup of bariatric surgery patients remains controversial

Objective

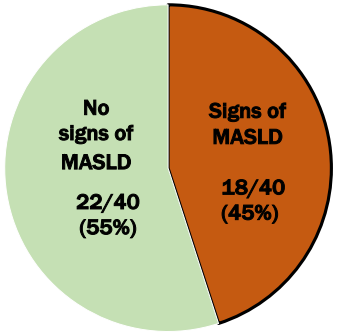
To determine the utility of routine pre-operative abdominal ultrasound in detecting diet-resistant MASLD in patients undergoing bariatric surgery

Methods

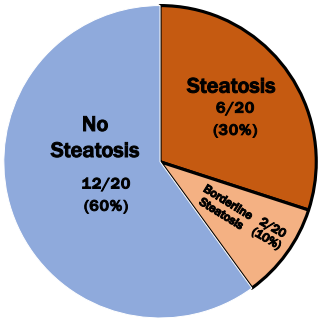
A cohort of 40 obese patients undergoing bariatric surgery (laparoscopic Roux- En-Y gastric Bypass or sleeve gastrectomy) between May-September 2024 were included. All patients underwent routine abdominal ultrasound during pre-operative workup. Liver function test values were normal for all patients at the time of ultrasound. All subsequently underwent nutritionist-guided dietary modification for at least two months prior to surgery as well as strict shrink liver diet for 2 weeks pre-operatively. Patients with evidence of hepatic steatosis on ultrasound underwent liver biopsy at the time of bariatric surgery.

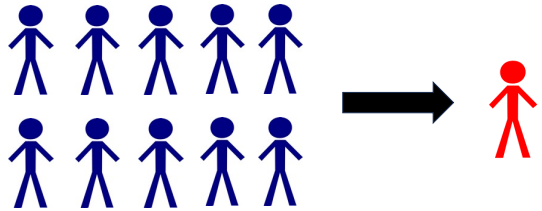
Results

1) Proportion of bariatric patients with signs of MASLD on routine abdominal ultrasound



2) Proportion of bariatric patients with signs of MASLD on routine abdominal ultrasound with hepatic steatosis on liver biopsy





10% of bariatric patients with pathologic hepatic steatosis referred to hepatologist for further treatment

Conclusions

- With growing incidence of hepatic steatosis progressing to end stage liver disease, it becomes imperative to screen and treat high risk obese patients for MASLD
- Routine pre-operative abdominal ultrasound detects a significant prevalence of MASLD amongst patients undergoing bariatric surgery
- Routine pre-operative abdominal ultrasound can serve as an indicator of the need for liver biopsy at the time of bariatric surgery, which uncovers significant MASLD-related damage requiring further specialized treatment and follow-up

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