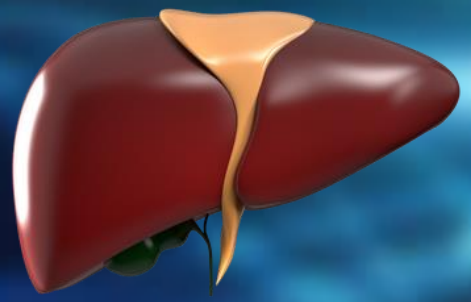
Association between sonographic diagnosis of fatty liver and laboratory data with pathologic liver biopsy findings in bariatric surgery patient



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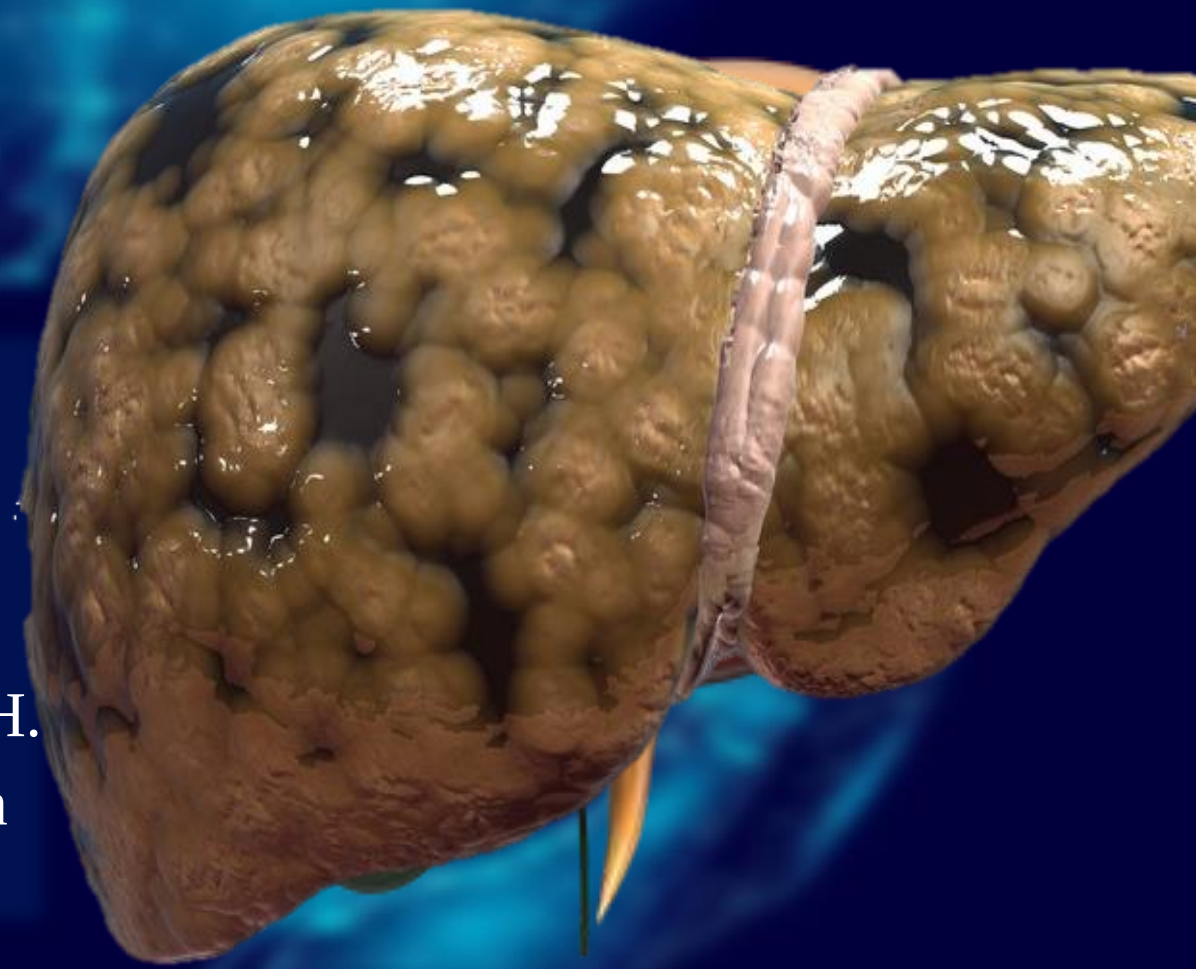
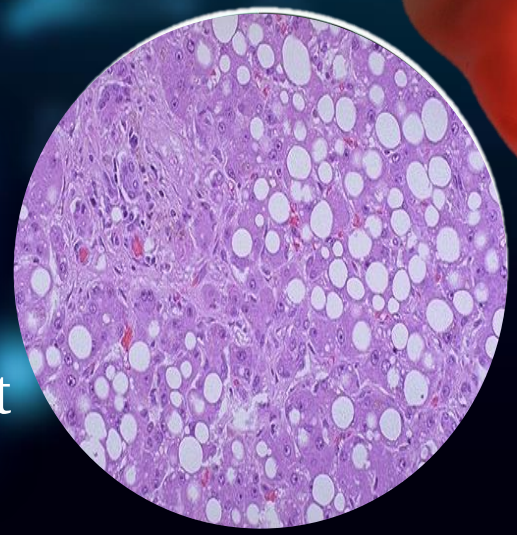
Background

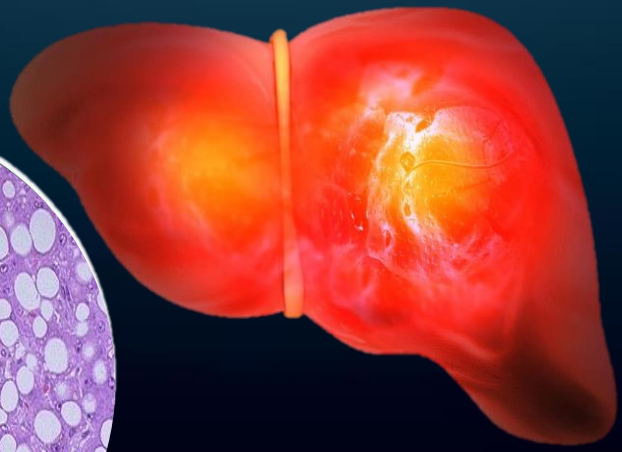
Metabolic dysfunction-associated steatohepatitis (MASH) is a common issue, which is frequently caused by severe obesity. The presence of steatosis, as a component of Metabolic-associated fatty live disease (MAFLD), can occasionally result in MASH. Todays, it has been shown that bariatric surgery can greatly improve the course of this disease.



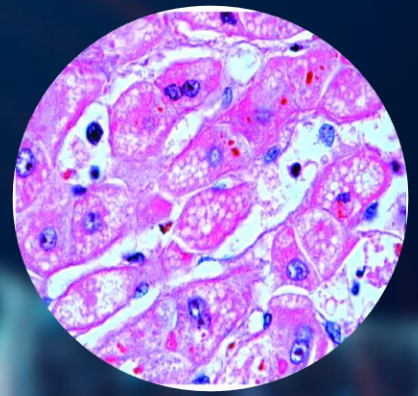
Objective

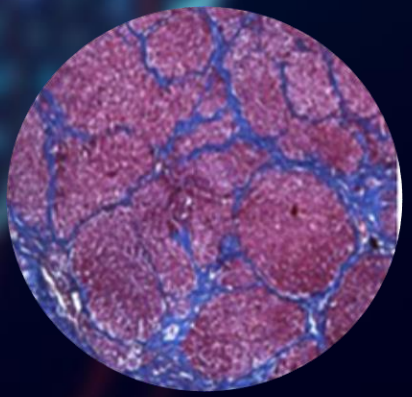
Identifying patients with MASH through intraoperative liver biopsies, enabling surgeons for further follow-up. We will attempt to determine non-invasive preoperative indicators and create a calculator to determine patients at risk of cirrhosis.

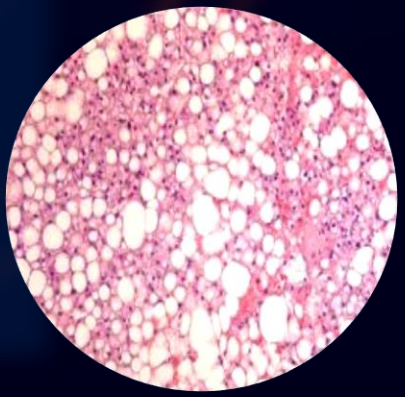




Methods







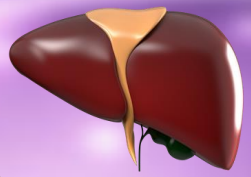
The patients who were scheduled for bariatric surgery underwent a preoperative evaluation and liver biopsies were obtained during laparoscopic bariatric surgeries.

Liver pathologic findings such as marcovescicular steatosis grads, fibrosis and MAFLD scores were analyzed. The other study variables included age, gender, Body Mass Index (BMI), diabetes mellitus, hypertension, smoking, alcohol, and the results of serum liver function tests, triglyceride, cholesterol, ferritin, copper, zinc, vitamin A and D, were also reviewed. Univariate and multivariate analyses were performed.

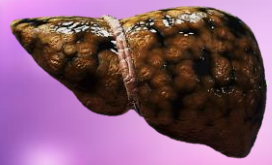
Results

A total of 102 patients were entered into the study

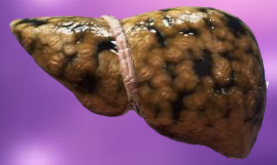
19.6% patients had grade 0



43.13% had grade1



15.6% had grade 2

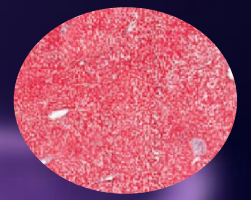


21.56% grade 3

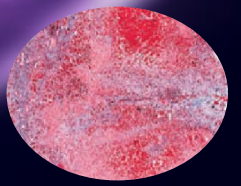
Macrovescicular steatosis grading has related to lower levels of vitamin d and diabetes but not significantly (borderline p value), and no obvious relationship was found with other variants. Fibrosis has no significant related to variants.

Liver fibrosis stages:

64.70% had grade 0,



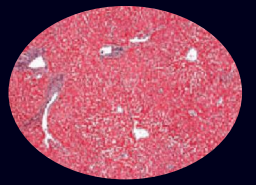
28.43% had grade 1,



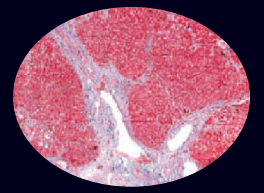
2.94% had grade 2,

2.94%

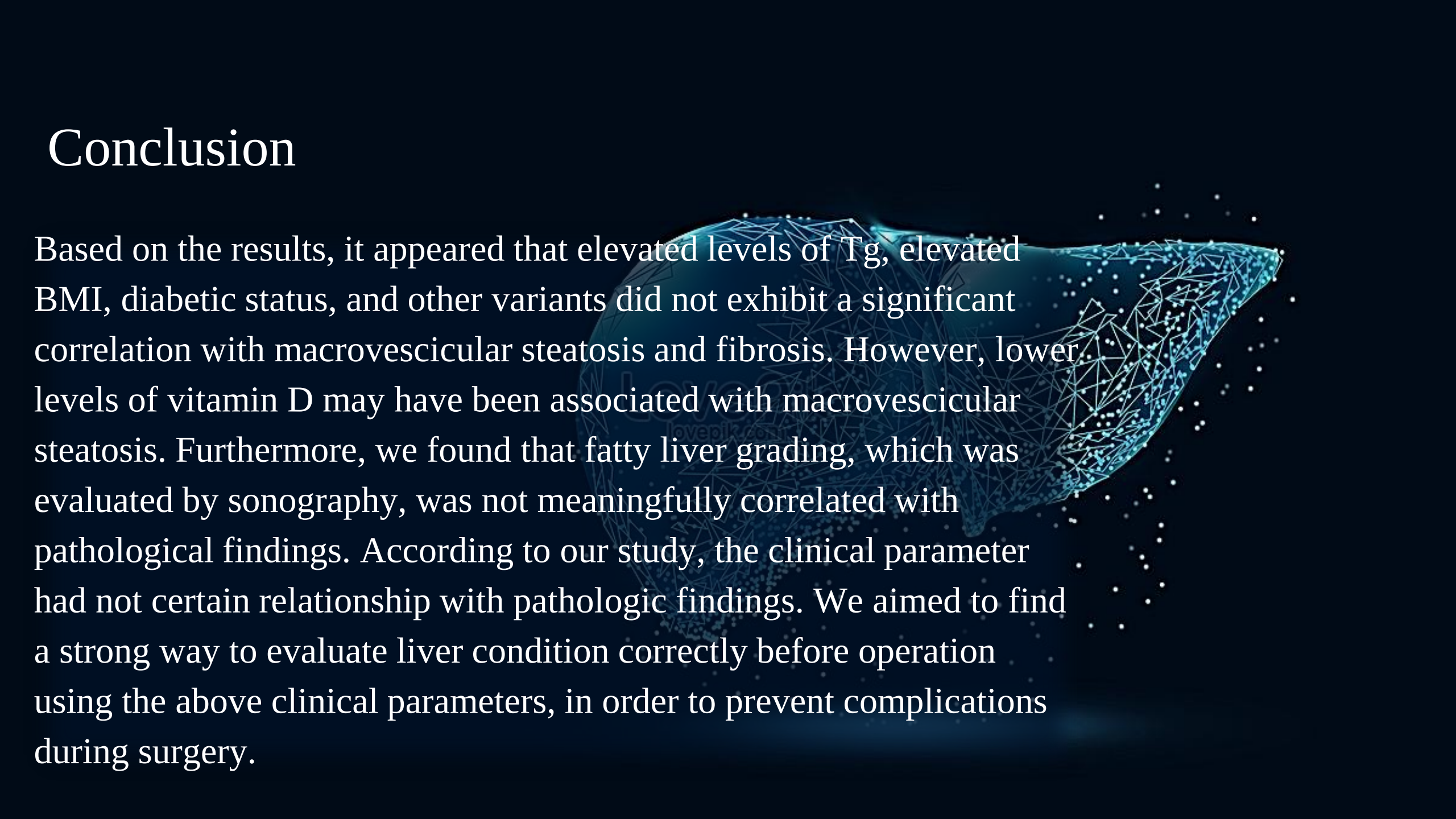
had grade 3



grade 4 was 0.98%.



Conclusion



Based on the results, it appeared that elevated levels of Tg, elevated BMI, diabetic status, and other variants did not exhibit a significant correlation with macrovescicular steatosis and fibrosis. However, lower levels of vitamin D may have been associated with macrovescicular steatosis. Furthermore, we found that fatty liver grading, which was evaluated by sonography, was not meaningfully correlated with pathological findings. According to our study, the clinical parameter had not certain relationship with pathologic findings. We aimed to find a strong way to evaluate liver condition correctly before operation using the above clinical parameters, in order to prevent complications during surgery.