

INTRODUCTION

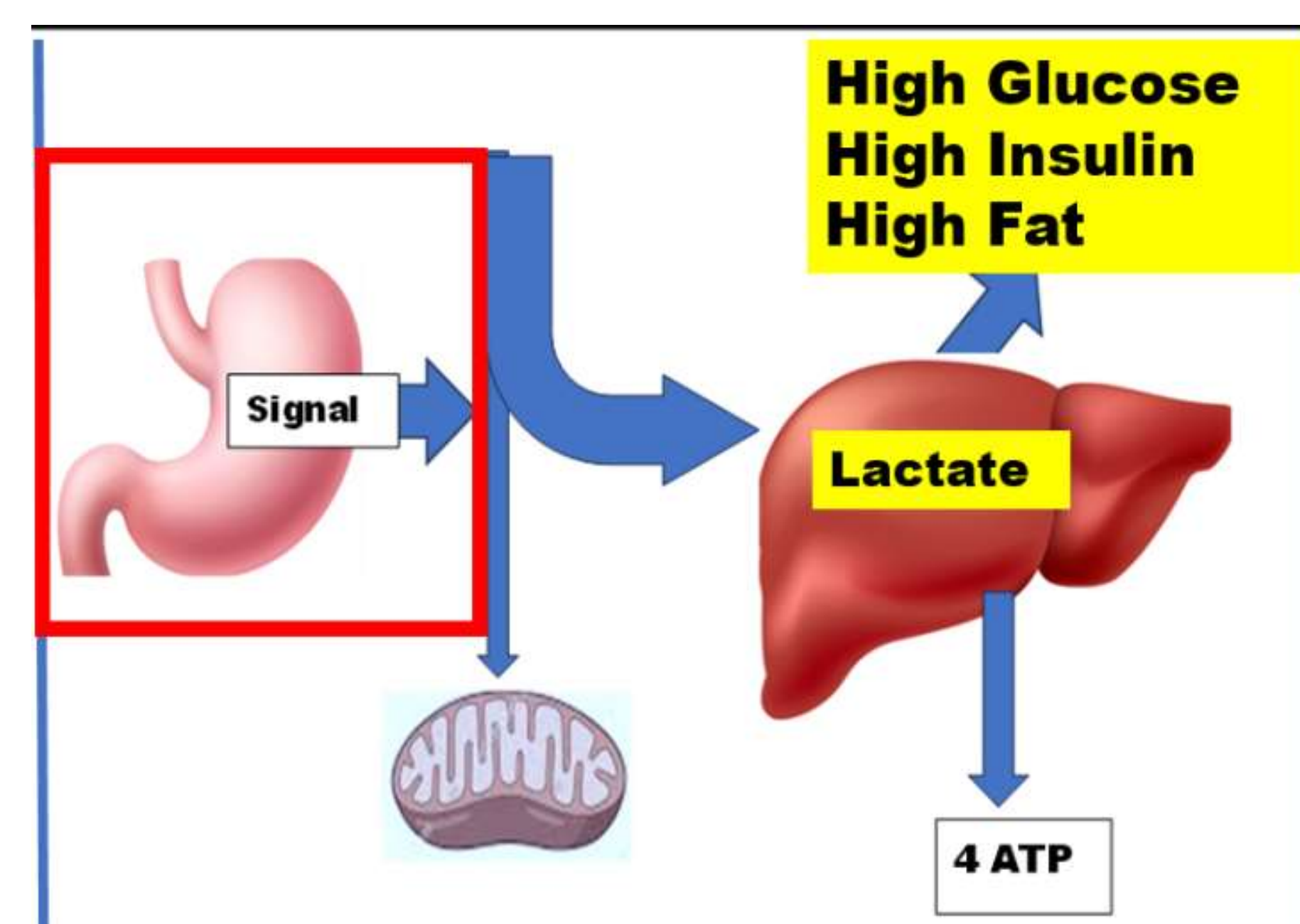
- The Mediterranean diet has cardiovascular and metabolic health benefits
- Extra virgin olive oil is the key component**
- The purpose of our review was to explore the mechanism

OBJECTIVES

- Explore the foregut hypothesis in bariatric surgery
- Propose that extra virgin olive oil may act in similar ways to explain its metabolic benefits

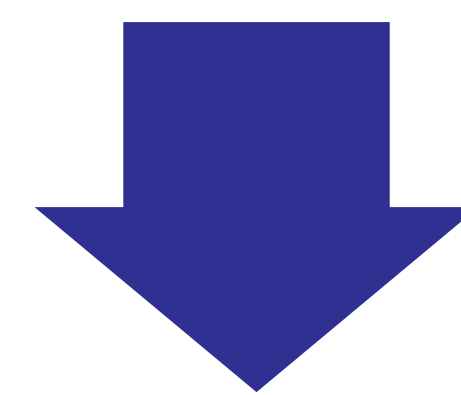
MATERIALS & METHODS

In addition to the findings from the ongoing research of the ECU Metabolic Surgical Research Group (NIH # DK120296: Drs. Houmard, Dohm, Broskey, Jones, Pories), we reviewed current literature on the Mediterranean diet, the metabolic effects of extra virgin olive oil, as well as previous studies examining bariatric surgery and type 2 diabetes remission. Articles were identified on PubMed using relevant search terms.

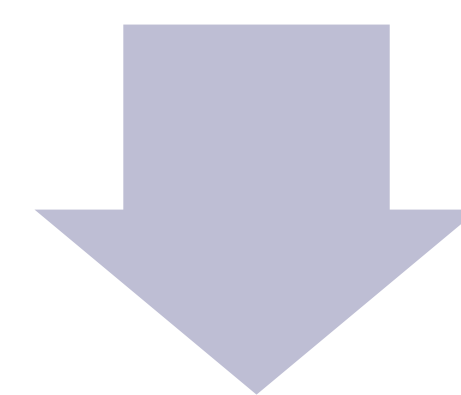


RESULTS

Bariatric surgery leads to rapid, full and durable remission of the metabolic syndrome, i.e. diabetes, hypertension, abnormal cholesterol and a decrease in central obesity by 1/3 and a decrease in all-cause mortality by 79%.²



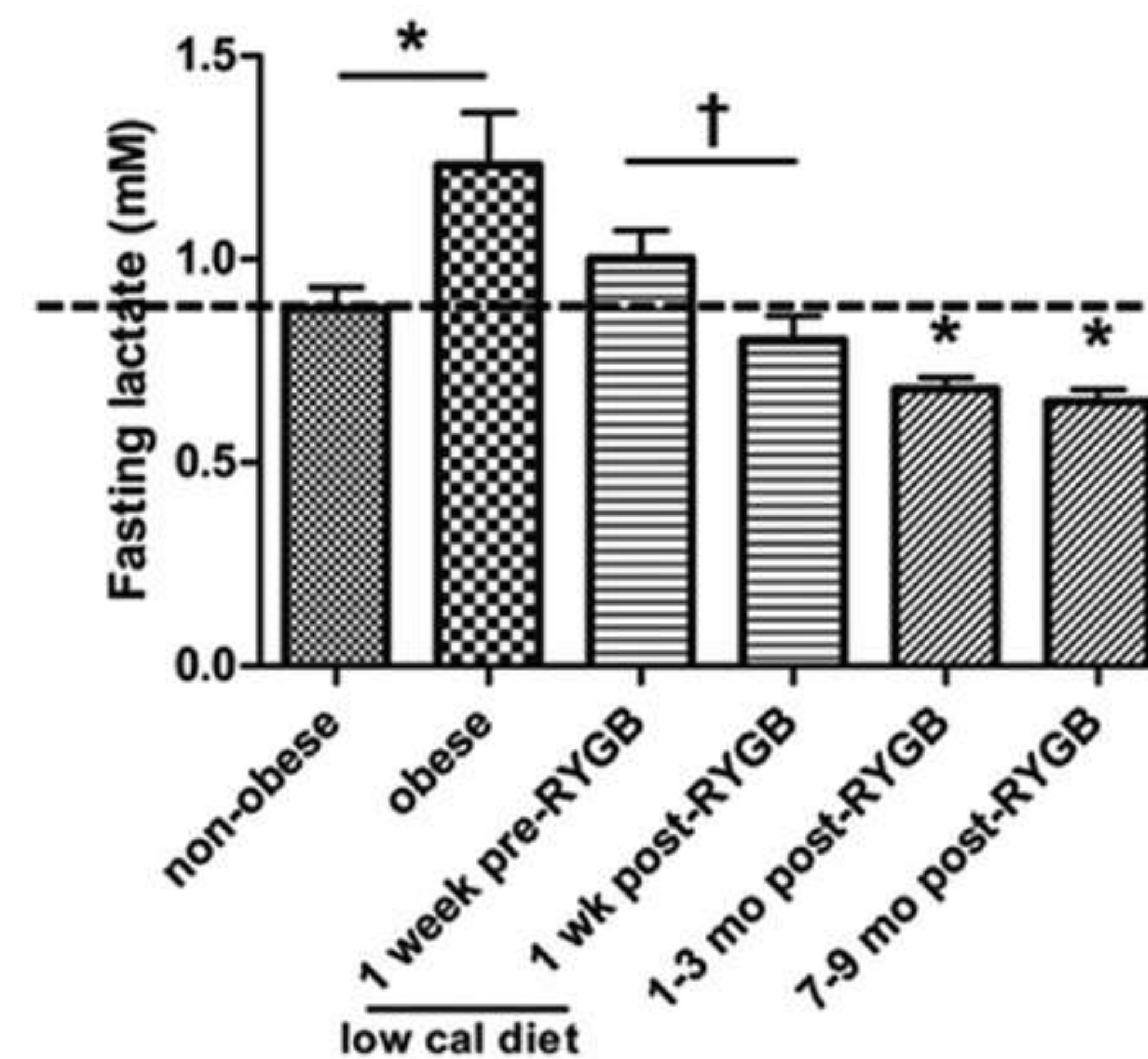
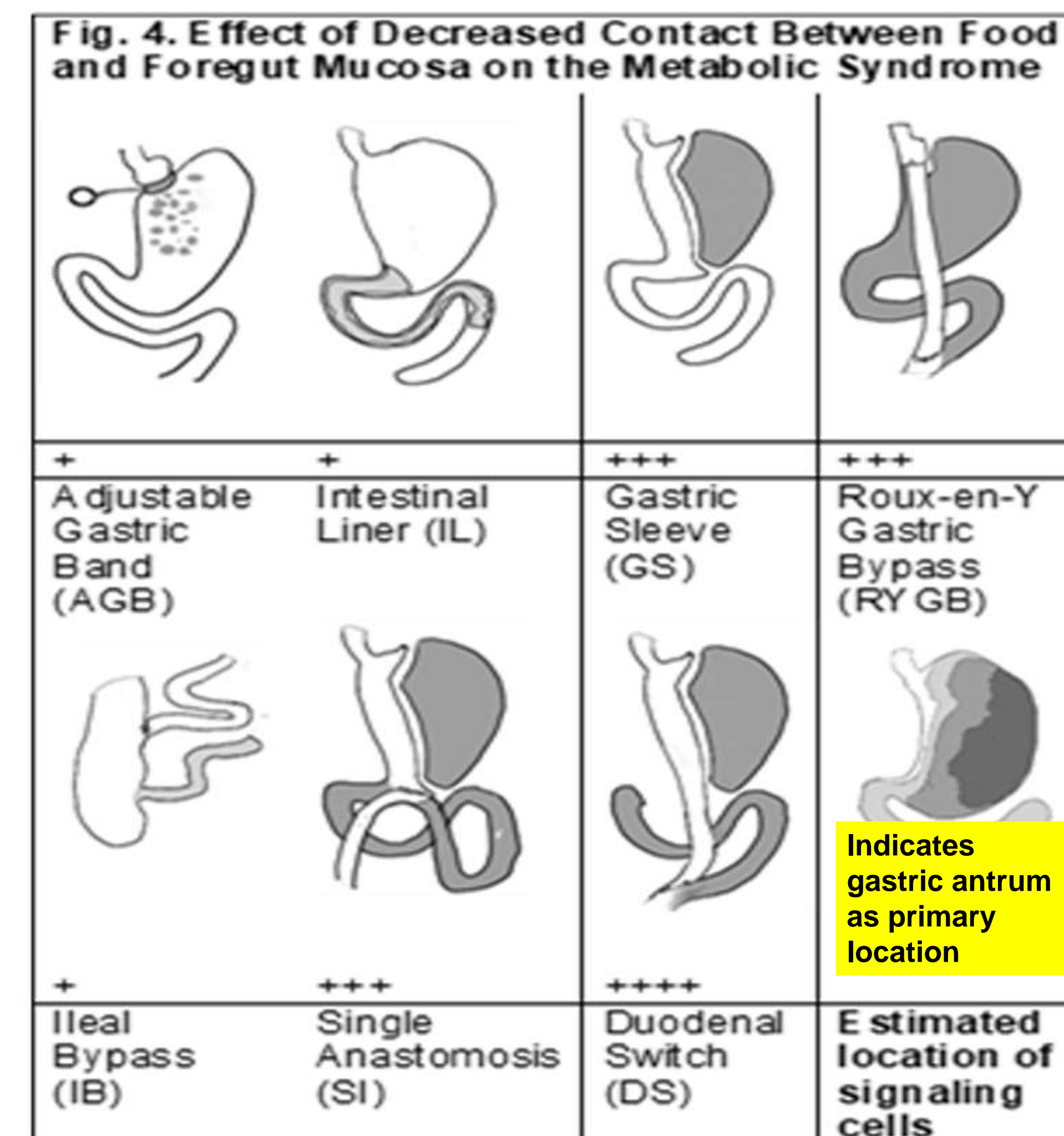
Patients with the syndrome have high levels of lactate, indicating their mitochondria do not metabolize glucose efficiently.³



After bariatric surgery, lactate levels fall not only back to normal levels but even lower than lean individuals.³

In participants observed consuming high amounts of olive oil, there was a 16% reduced risk of T2D⁴.

Increase in GLP-1⁵ and insulin⁶, improved insulin resistance⁷, decrease in lipopolysaccharides⁸, and reduces gastric emptying rate⁹.



Coats the foregut, forming a protective barrier along the mucosa to decrease contact with food, therefore interfering with intestinal signaling.

LESSONS LEARNED

We have strong evidence, but we cannot include it.

Four subjects underwent an oral glucose tolerance test that documented that pre-prandial extra virgin olive oil consumption led to **lower glucose and lactate** levels in all trials.

Although the study was approved by the IRB and carried out in accordance with the protocol, we have been unable to locate the signed consent forms. We cannot cite these data and are planning to restart the study.

This will provide **further insight into the underlying mechanism** of extra virgin olive oil and offers **potential management strategies** for patients with type 2 diabetes.

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