Effect of phentermine on hepatic steatosis in patients undergoing bariatric surgery. A pilot randomized controlled study

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November 26, 2021

Abstract

Background: Hepatic steatosis is associated with increased surgical complications in patients undergoing bariatric surgery. The aim of this study was to evaluate the effect of phentermine in reducing hepatic steatosis, adipose tissue and surgical complications in patients undergoing bariatric surgery. Methods: This study is a two-arm, double-blind, randomized, controlled pilot trial of 64 adult subjects with BMI >35 kg/m2 selected for bariatric surgery randomized to phentermine 15 mg once daily for 8 week or placebo. Both groups adhered to a hypocaloric diet and individualized exercise program. The primary end point was the reduce frequency of hepatic steatosis measured by ultrasound and the reduce adipose tissue through fat mass in total kilograms or percentage. Key secondary points were the prevalence of surgical complications. Baseline and final biochemical parameters and blood pressure too were assessments. Results: Phentermine group the frequency of hepatic steatosis decreased 19%, and the percentage of patients with a normal ultrasound increased from 9% to 20% (p= 0.053). Likewise, the decrease in fat mass in kilograms was greater in the phentermine group (56.1 kg vs. 51.8 kg, p=0.02), and a significant decrease in the HOMA-IR index was observed regardless of weight loss. No differences in surgical complications were observed between groups. Phentermine was well tolerated; no differences were observed in the frequency of adverse events between the groups. Conclusions: Phentermine decreased the proportion of individuals with hepatic steatosis by 19%, promoted a greater loss of fat mass in kilograms, and decreased insulin resistance among candidates for bariatric surgery.

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Phentermine in patients undergoing bariatric surgery

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Acknowledgments

We thank Dr. Sánchez-Conde R of the Department of Radiology for providing his input and expertise in performing and evaluation of ultrasound. Additionally, we would like to acknowledge the help and dedication of the following colleagues who participated in the care of our patients or have otherwise supported us in the conduct of this study: we thank Dr. Sosa-Duran EE, Aboharp-Hassan Z, and all the members of the Obesity Clinic.

Word count: 2789

Number of figures: 2

Number of tables: 4

Number of references: 29

Conflict of interest

The authors have no conflict of interests to declare.

Authors' contributions:

EPC conceived and designed the study; analyzed, interpreted, and collected the patient data; and was a major contributor to the writing of the manuscript. MGC designed the study, analyzed and interpreted the patient data, and was a major contributor to the writing of the manuscript. SOG collected, analyzed and interpreted the patient data, and contributed to the writing of the manuscript. YLC collected the patient data, and contributed to writing the manuscript. RGA collected the patient data, and contributed to writing the manuscript. GBS collected the patient data, and contributed to writing the manuscript. LGS analyzed and interpreted the patient data and contributed to writing the manuscript. AFL analyzed and interpreted the patient data and contributed to writing the manuscript. All authors read and approved the final manuscript.

Funding

This article was support by Medix S.A. de C.V. External authors participated in the analysis and reports.

Principal Investigator statement

The authors confirm that the Principal Investigator for this paper is Elizabeth Pérez-Cruz, MD and that she had direct clinical responsibility for the patients.

Data availability statement

The data are not publicly available due to privacy or ethical restrictions. The protocol and data sets used and/or analyzed during the current study are available from the corresponding author on reasonable request. Please contact the corresponding author to complete a use agreement for access to these resources.

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