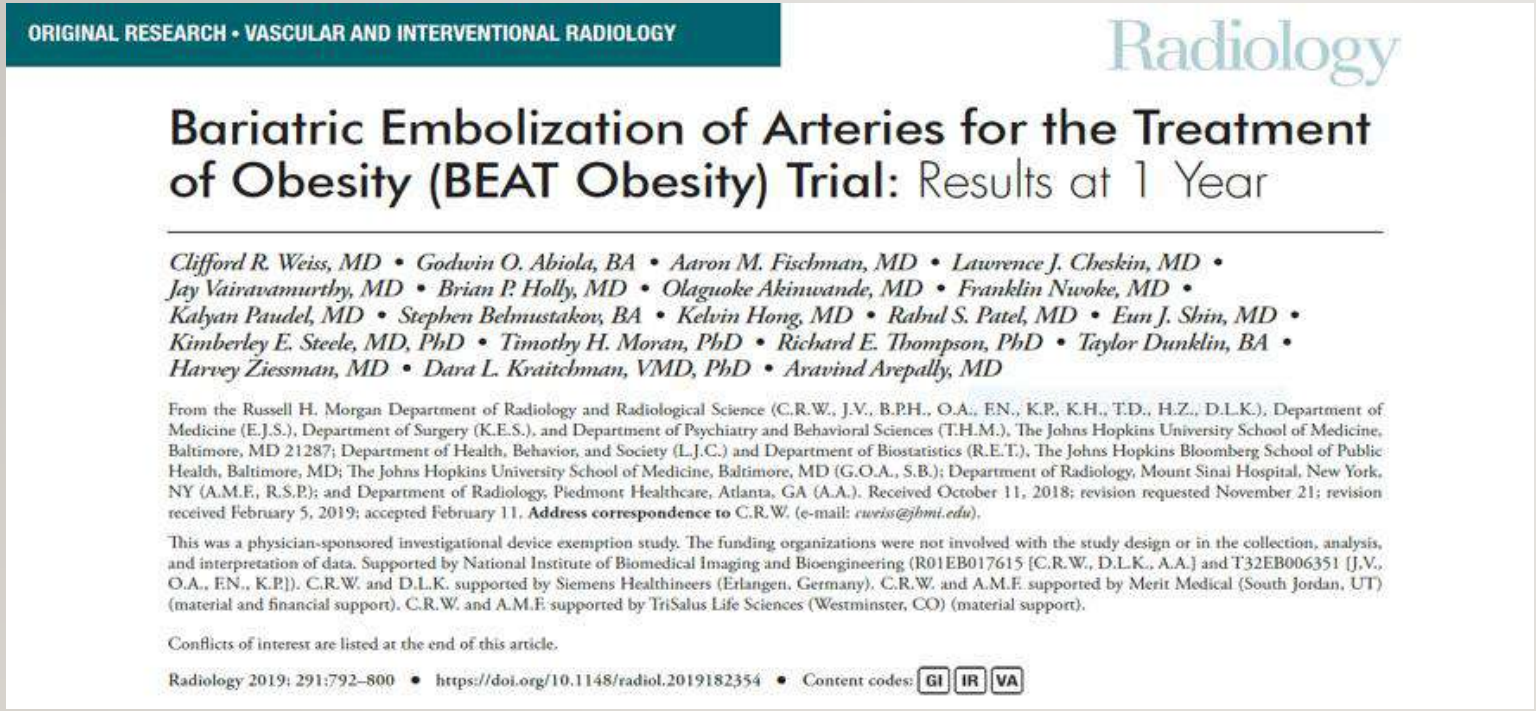
CRITICAL APPRAISAL

PRESENTER : DR AHMAD FIRDAUS MOHAMED

LECTURER IN CHARGE : PROF MADYA DR SHAFIE ABDULLAH

DATE : 22.6.2020



ORIGINAL RESEARCH • VASCULAR AND INTERVENTIONAL RADIOLOGY

Radiology

Bariatric Embolization of Arteries for the Treatment of Obesity (BEAT Obesity) Trial: Results at 1 Year

Clifford R. Weiss, MD • Godwin O. Abiola, BA • Aaron M. Fischman, MD • Lawrence J. Cheskin, MD • Jay Vairavamurthy, MD • Brian P. Holly, MD • Olaguoke Akinwande, MD • Franklin Nwoke, MD • Kalyan Paudel, MD • Stephen Belmustakov, BA • Kelvin Hong, MD • Rahul S. Patel, MD • Eun J. Shin, MD • Kimberley E. Steele, MD, PhD • Timothy H. Moran, PhD • Richard E. Thompson, PhD • Taylor Dunklin, BA • Harvey Ziessman, MD • Dara L. Kraitchman, VMD, PhD • Aravind Arepally, MD

From the Russell H. Morgan Department of Radiology and Radiological Science (C.R.W., J.V., B.P.H., O.A., F.N., K.P., K.H., T.D., H.Z., D.L.K.), Department of Medicine (E.J.S.), Department of Surgery (K.E.S.), and Department of Psychiatry and Behavioral Sciences (T.H.M.), The Johns Hopkins University School of Medicine, Baltimore, MD 21287; Department of Health, Behavior, and Society (L.J.C.) and Department of Biostatistics (R.E.T.), The Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; The Johns Hopkins University School of Medicine, Baltimore, MD (G.O.A., S.B.); Department of Radiology, Mount Sinai Hospital, New York, NY (A.M.F., R.S.P.); and Department of Radiology, Piedmont Healthcare, Atlanta, GA (A.A.). Received October 11, 2018; revision requested November 21; revision received February 5, 2019; accepted February 11. **Address correspondence to** C.R.W. (e-mail: *cweiss@jhmi.edu*).

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Conflicts of interest are listed at the end of this article.

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- Title : Short and mentioned clearly
- Published in 2019 in Journal of Vascular and Interventional Radiology
- Authors from relevant departments : Multidiscipliniary (Radiology, Medical, Surgery, Psy)

OBJECTIVE

- To evaluate the safety and efficacy of bariatric embolization in severely obese adults at up to 12 months after the procedure.

- Main objective was clearly stated.
- No specific objective.

METHODS

Study design : Prospective study - clearly mentioned

Study duration : up to 1 year (participants recruited from June 2014 – February 2018)

Participants: 20 patients - Acceptable for given study duration

Study area : The Johns Hopskins Hospital (Baltimore Maryland) & Mount Sinai Hospital (New York)

Study researchers : had a combined 5 to15 years experience in interventional radiology procedures.

Approved by institutional review board, US FDA, written informed consent taken, participants compensated financially

Primary end point

- 30 days adverse events post procedure
- Weight loss (percentage from baseline) during study period.

Secondary end point

- Technical feasibility (ability to embolize)
- Mucosal changes seen (endoscopy, gastric emptying study)
- 3 days hunger assessment(questionnaire)
- Quality of life scores (SF-36 and IWQOL)
- Metabolic panel laboratory changes.

- Inclusion criteria: ?
- Exclusion criteria: ?

- Range of age specified. Based on result (Age range 27-68)
- Mean age : 44 +/- 11yo
- BMI 45 +/- 4.1

MATERIALS

- Total 20 patient included in the study with all patient subject to full clinical examination, and they were encouraged to attend pre-embolization weight management counseling and weight management session DURING the study.
- Evaluation of patients by multidisciplinary team.
- Follow up and evaluation time post embo. (1st week, 2nd week, 1st month, 3rd month, 6th month and 12th month)

TECHNIQUE

- Details of procedures well explained - Transarterial embolization performed under fluoroscopic guidance using 300 to 500micrometer calibrated microspheres.

- The approach – femoral access / radial access and which artery selected clearly explained.
- Definition of embolization process clearly mentioned – visual absence of the flow of contrast after five heartbeats.
- CT arterial phase performed at the beginning to confirm fundal perfusion and blood supply.
- CT arterial phase post procedure to confirm distribution of embolization and microspheres.

STATISTICAL ANALYSIS

Demographic variables : Descriptive statistic used (female, age, ethnicity, weight, BMI, excess body weight)

Normality of data : 95% confidence interval with t-distribution test (using Shapiro Wilk test & Bootstrap methods) for normally and non normally distributed data.

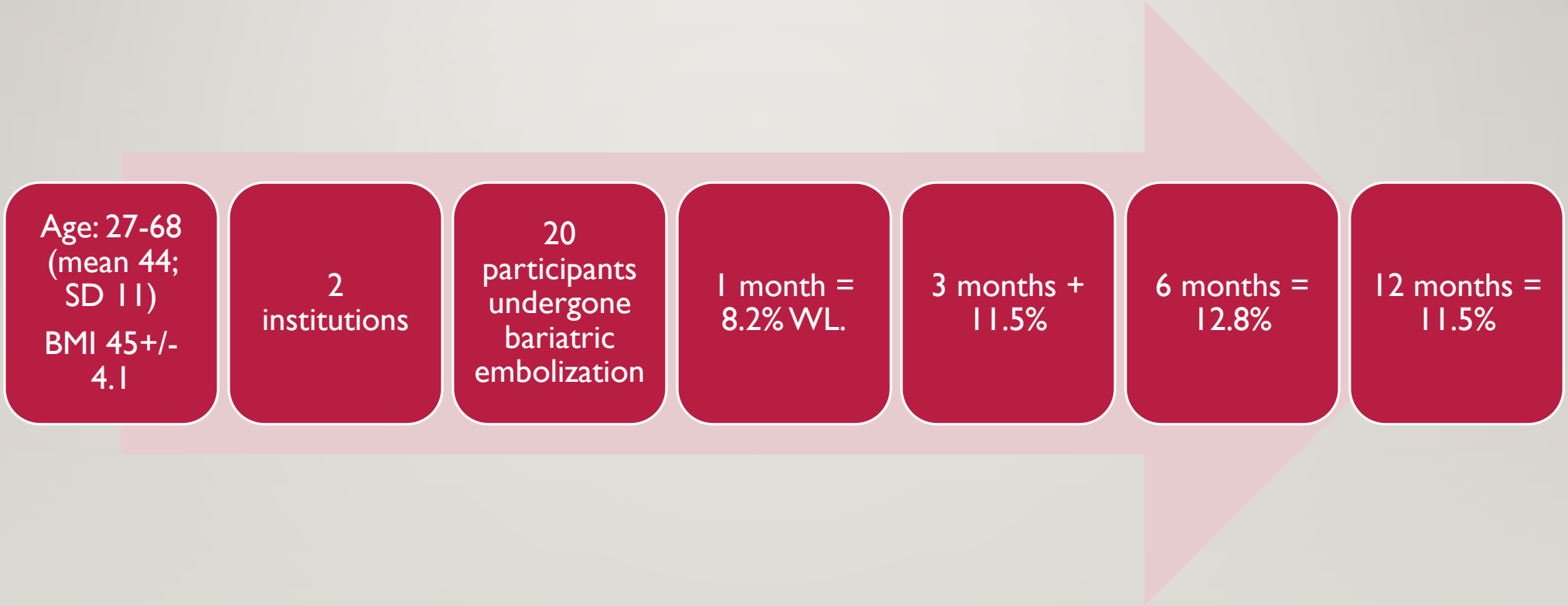
This is exploratory study.

-no specific time point as primary outcome

-no control for any baseline covariates.

Appropriate and clearly mentioned.

RESULTS:


Age: 27-68 (mean 44; SD 11)
BMI 45+/- 4.1
2 institutions
20 participants undergone bariatric embolization
1 month = 8.2% WL.
3 months + 11.5%
6 months = 12.8%
12 months = 11.5%

DISCUSSION

- Transarterial embolization : yielded promising initial results for weight loss.
  Treatment goal – to target endocrine function of gastric fundus to suppress appetite.
- No major adverse event recorded in this study.
- Weight loss achieved up to 11% in 12 months. (about 7.6kg).
- Other scores are also satisfactory (hunger score, quality of life assessment ; self esteem, physical function).
- Results supported by other similar articles/journals (Kipshidze et al, Syed et al, and Bai et al)

LIMITATIONS

- Small number of patients (uneven distribution between centers)
- Lack of definitive conclusion as patient dropped out during the study – didn't have continuous follow up and neglected certain questionnaires)
- Result may be subjective as weight management counselling varied between study sites., patients compliance, either before or after procedure.

CONCLUSION:

- Bariatric embolization as effective as some pharmacotherapies (orlistat, lorcaserin) – (reduce weight loss about 2% - 9%)
- Achieve weight loss similar to pharmacotherapy. Without requiring long term medication.

OVERALL

GOOD ARTICLE.
FINDINGS SUPPORTED BY OTHER SIMILAR ARTICLES/JOURNALS.

CLINICAL STUDY

Gastric Artery Embolization Trial for the Lessening of Appetite Nonsurgically (GET LEAN): Six-Month Preliminary Data

Mubin I. Syed, MD, Kamal Morar, MD, Azim Shaikh, MD, MBA, Paul Craig, MD, Omar Khan, MD, Sumeet Patel, and Hooman Khabiri, MD

ABSTRACT

Purpose: To report 6-month safety and efficacy results of a pilot study of left gastric artery (LGA) embolization for the treatment of morbid obesity (ie, body mass index [BMI] > 40 kg/m^2).

Materials and Methods: Four white patients (three women; average age, 41 y [range, 30–54 y]; mean weight, 259.3 lbs [range, 199–296 lbs]; mean BMI, 42.4 kg/m^2 [range, 40.2–44.9 kg/m^2]) underwent an LGA embolization procedure with 300–500-μm Bead Block particles via right common femoral or left radial artery approach. Follow-up included upper endoscopy at 3 days and 30 days if necessary and a gastric emptying study at 3 months. Tracked parameters included adverse events; weight change;

OBES SURG
https://doi.org/10.1007/s11695-017-2979-9

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ORIGINAL CONTRIBUTIONS

Bariatric Embolization of the Left Gastric Arteries for the Treatment of Obesity: 9-Month Data in 5 Patients

Zhi-Bin Bai[1] · Yong-Lin Qin[1] · Gang Deng[1] · Guo-Feng Zhao[1] · Bin-Yan Zhong[1] ·
Gao-Jun Teng[1]

Abstract

Purpose The purpose of this study is to investigate the safety and 9-month effectiveness of transcatheter left gastric artery embolization (LGAE) for treating patients with obesity.

Materials and Methods The protocol of this study was ap-

and 6 months following LGAE (decreased by 0.26%, $p = 0.929$, and 4.33%, $p = 0.427$, respectively), but it declined obviously 9 months after LGAE (decreased by 11.22%, $p = 0.295$).

Both waist circumference and waist-to-height ratio de-

- Thank you