



Why Does a Fatty Meal Sometimes Cause Chest Pain?

By Forks Over Knives
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Chest pain that occurs a few hours after a meal is called postprandial angina, and there have been records of it in medical literature for hundreds of years. Until recently, we didn't know what caused it.

Now we know that the problem lies mainly in the food being consumed. Researchers found that they could induce angina in people with heart disease by having them drink fat. They could not, however, induce any chest pain in people eating a nonfat meal at the same time as the fat-drinking group.

How can fat in a meal affect blood flow to the heart?

The answer lies in the endothelial cells. Watch along as Dr. Greger of NutritionFacts.org takes us through the science.

<https://www.youtube.com/watch?v=3rCg7Z3AvR0>

What about plant fats?

Researchers found that both animal fat and plant fat (sunflower oil) worsened endothelial function. More information on [oils in general](#) and on [coconut oil](#).

Dr. Greger's Sources:

P Rajendran, T Rengarajan, J Thangavel, Y Nishigaki, D Sakthisekaran, G Sethi, I Nishigaki. The vascular endothelium and human diseases. *Int J Biol Sci*. 2013 Nov

9;9(10):1057-69.

W Heberden. Some Account of a Disorder of the Breast. *Med Trans*. 1768

July:59-66.

PJ Ong, TS Dean, CS Hayward, PL Della Monica, TA Sanders, P Collins. Effect of fat and carbohydrate consumption on endothelial function. *Lancet*. 1999 Dec

18-25;354(9196):2134.

WY Chung, DW Sohn, YJ Kim, S Oh, IH Chai, YB Park, YS Choi. Absence of postprandial surge in coronary blood flow distal to significant stenosis: a possible

mechanism of postprandial angina. *J Am Coll Cardiol*. 2002 Dec 4;40(11):1976-83.

PT Kuo, CR Joyner Jr. Angina pectoris induced by fat ingestion in patients with

coronary artery disease; ballistocardiographic and electrocardiographic findings. *J Am Med Assoc*. 1955 Jul 23;158(12):1008-13.

B Cook, D Cooper, D Fitzpatrick, S Smith, D Tierney, S Mehy. 8:45-90:00. The Influence of a High Fat Meal Compared to an Olestra Meal on Coronary Artery

Endothelial Dysfunction by Rubidium (Rb)-82 Positron Emission Tomography

(PET) and on Post Prandial Serum Triglycerides. *Clin Positron Imaging*. 2000

Jul;3(4):150.

DW Brock, CK Davis, BA Irving, J Rodriguez, EJ Barrett, A Weltman, AG Taylor, GA Gaesser. A high-carbohydrate, high-fiber meal improves endothelial function in

adults with the metabolic syndrome. *Diabetes Care*. 2006 Oct;29(10):2313-5.

RA Vogel. Brachial artery ultrasound: a noninvasive tool in the assessment of triglyceride-rich lipoproteins. *Clin Cardiol*. 1999 Jun;22(6 Suppl):II34-9.

R Berlinerblau, J Shani. Postprandial angina pectoris: clinical and angiographic correlations. *J Am Coll Cardiol*. 1994 Mar 1;23(3):627-9.

SP Zhao, L Liu, M Gao, QC Zhou, YL Li, B Xia. Impairment of endothelial function after a high-fat meal in patients with coronary artery disease. *Coron Artery Dis*. 2001

Nov;12(7):561-5.

P Lundman, M Eriksson, K Schenck-Gustafsson, F Karpe, P Tornvall. Transient triglyceridemia decreases vascular reactivity in young, healthy men without risk

factors for coronary heart disease. *Circulation*. 1997 Nov 18;96(10):3266-8.