atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by randy@val.com - 2008/11/16 22:24

This is the 3rd study that I've seen that implicates bad outcomes on endothelium on Atkin style diets. I know the G. Taubes problems has a study from the 1890s that refutes this, but I'll post it anyway. Regards Randy http://www.sciencedaily.com/releases/2008/02/080229141756.htm Hypertension. 2008 Feb;51(2):376-82. Epub 2008 Jan 14. Links Benefit of low-fat over low-carbohydrate diet on endothelial health in obesity.Phillips SA, Jurva JW, Syed AQ, Syed AQ, Kulinski JP, Pleuss J, Hoffmann RG, Gutterman DD. Department of Medicine, Cardiovascular Center, Medical College of Wisconsin, Milwaukee, Wisconsin, USA. sha...@uic.edu Obesity is associated with impaired endothelial-dependent flow- mediated dilation, a precursor to hypertension and atherosclerosis. Although dieting generally improves cardiovascular risk factors, the direct effect of different dietary strategies on vascular endothelial function is not known. The purpose of this study was to test the hypothesis that a low-fat (LF) diet improves endothelial function compared with an isocaloric low-carbohydrate (LC) diet. Obese (n=20; body mass index: 29 to 39; mean systolic blood pressure: 107 to 125 mm Hg) and otherwise healthy volunteers were randomly assigned to either the American Heart Association modeled LF (30% fat calories) diet or an isocaloric LC Atkins' style diet (20 g of carbohydrates) for 6 weeks (4-week weight loss and 2-week maintenance phase). Brachial flow- mediated dilation and dilation to nitroglycerin were measured with ultrasound using automated edge detection technology (baseline, week 2, and week 6). Blood pressure, weight loss, and cholesterol profiles were measured throughout the study. Weight loss was similar in LF (100+/-4 to 96.1+/-4 kg; P<0.001) and LC (95.4+/-4 to 89.7+/-4 kg; P<0.001) diets. Blood pressure decreased similarly in both groups (LF: 8/5 mm Hg; LC: 12/6 mm Hg) at 6 weeks. After 6 weeks, the percentage of flow-mediated dilation improved (1.9+/-0.8; P<0.05) in the LF diet but was reduced in the LC diet (-1.4+/-0.6; P<0.05) versus baseline. Dilation to nitroglycerin and lipid panels was similar at 0, 2, and 6 weeks. Despite similar degrees of weight loss and changes blood pressure, LF diets improved brachial artery flow-mediated dilation over LC diets. LF diets may confer greater cardiovascular protection than LC diets. PMID: 18195164

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Posted by Andy - 2008/11/16 22:24

I know the G. Taubes problems has a study from the 1890s Boy, THAT study takes me back!!! ;) Andy

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by Alan S - 2008/11/16 22:24

Obese (n=20; body mass index: 29 to 39; mean systolic blood pressure: 107 to 125 mm Hg) and otherwise healthy volunteers were randomly assigned to either the American Heart Association modeled LF (30% fat calories) diet or an isocaloric LC Atkins' style diet (20 g of carbohydrates) for 6 weeks (4-week weight loss and 2-week maintenance phase). Too few subjects, over too short a period with too extreme a contrast. 20 subjects over six weeks, none with diabetes and comparing 30% fat and presumably 55-60% carbs to extreme low-carb. So, when are we going to see the continuing study when they come out of induction? And it was isocaloric. One thing that seems to escape many of those comparing diets is that isocaloric may seem a fair test superficially - but it's not how it happens in the real world. Part of the differences I have found in the five years since I moved to low-spike and lower carb eating (but a lot more than 20gms daily) is the absence of hunger and absence of the desire to over-eat. So satiety and hunger are significant factors to be properly researched as part of any well-designed study into obesity and weight loss and an isocaloric diet cannot do that. Atkins has been around for thirty years. I'm not an Atkins devotee, but it occurs to me that despite all the passions the diet wars arouse there have been no long-term studies of those who have followed the diet. Nor, for that matter, can I recall any such studies specifically on those who followed the ADA or AHA diet over a similar period. One wonders why, considering that doctors and dieticians have been prescribing it to their patients for decades, no-one has thought to scientifically find out the good and bad long-term side effects. This one may interest you. It's another very small, very short study by the same lead researcher in 2004. Only the abstract seems to be available in English. http://www.medscape.com/medline/abstract/15807201 Effect of a high fat or high carbohydrate breakfast on postprandial lipid profile in healthy subjects with or without family history of type 2 diabetes mellitus <snip A single blind, controlled clinical trial with parallel groups was performed in 20 healthy subjects; 10 subjects with family history of type 2 diabetes mellitus and 10 individuals without that background. Each group was randomized to receive a high fat or high carbohidrate breakfast. A metabolic profile that included fasting and postprandial lipids, as well as, the assessment of insulin sensitivity were performed. <snip In conclusion, healthy subjects with family history of type 2 diabetes showed some atherogenic characteristics in their metabolic profile, and the high carbohydrate breakfast produced in them increments in apolipoprotein B and in triglycerides, meanwhile that, in those subjects without such background the high fast (fat?) breakfast produced unfavorable effects on their lipid concentrations. Apparently increments in apolipoprotein B and in triglycerides in those with possible diabetes genes weren't

unfavourable? I mention it as one of the few studies I can find which specifically compared those breakfasts for a study group including diabetics. For some reason it never occurred to them to add BG's to those postprandial tests. Cheers, Alan, T2, Australia. d&e, metformin 1500mg, ezetrol 10mg Everything in Moderation - Except Laughter.

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Posted by Julie Bove - 2008/11/16 22:24

I know the G. Taubes problems has a study from the 1890s Boy, THAT study takes me back!!! ;) Hehehehe. Oldie but goodie!

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Posted by Ozgirl - 2008/11/16 22:24

Very interesting but I don't do Atkins . I do the Ozgirl diet and my fats are those encouraged by heart authorities, fats that help promote and maintain endothelial health. Researchers would be better spending their $$$'s researching people who actually take a lot of trouble to eat what is optimally beneficial. 30% fat isn't a particularly low fat diet. A diet with 30% fat should come under a balanced diet rather than low fat. If someone truly was assessed that follows a low fat diet there would be significant changes to the endothelium (for the worse)and cardiovascular risk in general because of the lack of helpful fats in the diet.

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Posted by Andy - 2008/11/16 22:24

Andy <q wrote in message ra...@val.com said... I know the G. Taubes problems has a study from the 1890s Boy, THAT study takes me back!!! ;) Hehehehe. Oldie but goodie! <VBG Andy

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by Andrew B. Chung, MD/PhD - 2008/11/16 22:24

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by randy@val.com - 2008/11/16 22:24

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25 soluable), High Resistant starch and Low GI. For me that boils down to beans, barley, and high fiber tortillas. (when I'm eating high carb). In fact a 'high carb breakfast of whole barley has positive effects on glycemia all day. See: http://www.sciencedaily.com/releases/2007/09/070905095324.htm Regards Randy

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by Ozgirl - 2008/11/16 22:24

Considering the pathophysiology of dawn phenomenon and insulin resistance I would be very surprised to find that any type 2 diabetic could handle grains at breakfast if they were not on medication of any kind. And the study seemed to indicate that the participants were not diabetic. How would that study be relevant to this group?

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by Chris Malcolm - 2008/11/16 22:24

In fact a 'high carb breakfast of whole barley has positive effects on glycemia all day. See: http://www.sciencedaily.com/releases/2007/09/070905095324.htm That's not the first study to propose that kind of benefit of barley. So when I discovered the personal dangers of wheat to my BGs and carby cravings I tried barley, and was disappointed to discover it seemed just as bad for my BGs as wheat. As indeed was brown rice. The one cereal grain that's not so bad for me, but which I still couldn't manage at breakfast, is whole grain pure rye pumpernickel.

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Posted by Andrew B. Chung, MD/PhD - 2008/11/16 22:24

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Posted by randy@val.com - 2008/11/16 22:24

That's not the first study to propose that kind of benefit of barley. So when I discovered the personal dangers of wheat to my BGs and carby cravings I tried barley, and was disappointed to discover it seemed just as bad for my BGs as wheat. As indeed was brown rice. The one cereal grain that's not so bad for me, but which I still couldn't manage at breakfast, is whole grain pure rye pumpernickel. Reply: Keep in mind Chris that the beneficial effects of barley are due to gut fermentation of the beta-glucans and resistant starch to buytrate. (and supplementing with a pro-biotic supplement is not likely to reduce this) Low card diet drastically reduce the gut bacteria to do this. Reference: http://www.sciencedaily.com/releases/2007/06/070619173537.htm Regards Randy

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Posted by randy@val.com - 2008/11/16 22:24

Randy: It really frustrating cause most all the studies use these lousy carb diets as a comparison.

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Posted by Nicky - 2008/11/16 22:24

Nicky Wrote: Jan, Randy. We're different people living on opposite ends of the earth :) Nicky. T2 dx 05/04 + underactive thyroid D&E, 100ug thyroxine Last A1c 5.6% BMI 25

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by randy@val.com - 2008/11/16 22:24

Nicky Wrote: Jan, Randy. We're different people living on opposite ends of the earth :) Nicky. T2 dx 05/04 + underactive thyroid D&E, 100ug thyroxine Last A1c 5.6% BMI 25 Whops!! My appologizes Nicky. Randy

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by Chris Malcolm - 2008/11/16 22:24

Chris Wrote: That's not the first study to propose that kind of benefit of barley. So when I discovered the personal dangers of wheat to my BGs and carby cravings I tried barley, and was disappointed to discover it seemed just as bad for my BGs as wheat. As indeed was brown rice. The one cereal grain that's not so bad for me, but which I still couldn't manage at breakfast, is whole grain pure rye pumpernickel. Reply: Keep in mind Chris that the beneficial effects of barley are due to gut fermentation of the beta-glucans and resistant starch to buytrate. (and supplementing with a pro-biotic supplement is not likely to reduce this) Low card diet drastically reduce the gut bacteria to do this. Reference: http://www.sciencedaily.com/releases/2007/06/070619173537.htm Thanks, I wasn't aware of that. This is one example of a more general point which is ignored by most nutritional studies, which is that we get important nutrients from our gut bacteria, and what kinds of gut bacteria you have depends on your general dietary history. It's well known for example that it takes quite a while for the gut bacteria to settle down and adapt to the new diet after switching from vegetarian to omnivore or vice versa. So trials in which people are switched to a new diet for a few weeks may give misleading results.

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Posted by sphynx....@gmail.com - 2008/11/16 22:24

Low card diet drastically reduce the gut bacteria to do this. Reference:http://www.sciencedaily.com/releases/2007/06/070619173537.htm Randy, VERY interesting article. Thanks for the link. Almost no dietary trial, when they report carbohydrates, break that into fiber and 'net carbs'. Given that the gut-digestion of fiber is a major source of butyrate, that's a significant shortcoming. Adam Becker Sr

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atkins diets Negative outcome on Atkins Diets (3rd time) regarding endothelium health

Posted by randy@val.com - 2008/11/16 22:24

Given that the gut-digestion of fiber is a major source of butyrate, that's a significant shortcoming. Don't understand what you mean. Fiber is one of the carbohydrates involved in feeding gut bacteria, the others are, resistant starch, plant structural polysaccharides and mucin. References: Reduced dietary intake of carbohydrates by obese subjects results in decreased concentrations of butyrate and butyrate-producing bacteria in feces.Duncan SH, Belenguer A,

Holtrop G, Johnstone AM, Flint HJ, Lobley GE. Microbial Ecology Group, Rowett Research Institute, Greenburn Road, Bucksburn, Aberdeen AB21 9SB, UK. Weight loss diets for humans that are based on a high intake of protein but low intake of fermentable carbohydrate may alter microbial activity and bacterial populations in the large intestine and thus impact on gut health. In this study, 19 healthy, obese (body mass index range, 30 to 42) volunteers were given in succession three different diets: maintenance (M) for 3 days (399 g carbohydrate/day) and then high protein/medium (164 g/day) carbohydrate (HPMC) and high protein/low (24 g/day) carbohydrate (HPLC) each for 4 weeks. Stool samples were collected at the end of each dietary regimen. Total fecal short-chain fatty acids were 114 mM, 74 mM, and 56 mM (P < 0.001) for M, HPMC, and HPLC diets, respectively, and there was a disproportionate reduction in fecal butyrate (18 mM, 9 mM, and 4 mM, respectively; P < 0.001) with decreasing carbohydrate. Major groups of fecal bacteria were monitored using nine 16S rRNA-targeted fluorescence in situ hybridization probes, relative to counts obtained with the broad probe Eub338. No significant change was seen in the relative counts of the bacteroides (Bac303) (mean, 29.6%) or the clostridial cluster XIVa (Erec482, 23.3%), cluster IX (Prop853, 9.3%), or cluster IV (Fprau645, 11.6%; Rbro730 plus Rfla729, 9.3%) groups. In contrast, the Roseburia spp. and Eubacterium rectale subgroup of cluster XIVa (11%, 8%, and 3% for M, HPMC, and HPLC, respectively; P < 0.001) and bifidobacteria (4%, 2.1%, and 1.9%, respectively; P = 0.026) decreased as carbohydrate intake decreased. The abundance of butyrate-producing bacteria related to Roseburia spp. and E. rectale correlated well with the decline in fecal butyrate. PMID: 17189447 Understanding the effects of diet on bacterial metabolism in the large intestine. PMID: 17448155 Two routes of metabolic cross-feeding between Bifidobacterium adolescentis and butyrate-producing anaerobes from the human gut. the other due to cross-feeding of partial breakdown products from complex substrates. PMID: 16672507 Randy

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Posted by W. Baker - 2008/11/16 22:24

: Adam Wrote: : ? Almost no dietary trial, when they report carbohydrates, break that : into fiber and 'net carbs'. ? : How was this almost no dietary trial. Find the abstract below. : Given that the gut-digestion of fiber is : a major source of butyrate, that's a significant shortcoming. : Don't understand what you mean. Fiber is one of the carbohydrates : involved in feeding gut bacteria, the others are, resistant starch, : plant structural polysaccharides and mucin. : References: : Reduced dietary intake of carbohydrates by obese subjects results in : decreased concentrations of butyrate and butyrate-producing bacteria : in feces.Duncan SH, Belenguer A, Holtrop G, Johnstone AM, Flint HJ, : Lobley GE. : Microbial Ecology Group, Rowett Research Institute, Greenburn Road, : Bucksburn, Aberdeen AB21 9SB, UK. : Weight loss diets for humans that are based on a high intake of : protein but low intake of fermentable carbohydrate may alter microbial : activity and bacterial populations in the large intestine and thus : impact on gut health. In this study, 19 healthy, obese (body mass : index range, 30 to 42) volunteers were given in succession three : different diets: maintenance (M) for 3 days (399 g carbohydrate/day) : and then high protein/medium (164 g/day) carbohydrate (HPMC) and high : protein/low (24 g/day) carbohydrate (HPLC) each for 4 weeks. Stool Was this 24 grams includig fibr or et carbs? If including fiber, this is way lower than even the induction phase of Atkins, which is only for 2 weeks and is 20 grms net carbs, excluding fiber. Most low carb diets include lots of low carb, non-strchy or sugary vegetables, which are high fiber. I know of no diet, except for that old Simpson diet which was lean protein adn concommitant fat only, tht has such low carbs. Fiber is encouraged in most low carb diets. Wendy

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Posted by Alan S - 2008/11/16 22:24

Chris Wrote: That's not the first study to propose that kind of benefit of barley. So when I discovered the personal

dangers of wheat to my BGs and carby cravings I tried barley, and was disappointed to discover it seemed just as bad for my BGs as wheat. As indeed was brown rice. The one cereal grain that's not so bad for me, but which I still couldn't manage at breakfast, is whole grain pure rye pumpernickel. Reply: Keep in mind Chris that the beneficial effects of barley are due to gut fermentation of the beta-glucans and resistant starch to buytrate. (and supplementing with a pro-biotic supplement is not likely to reduce this) Low card diet drastically reduce the gut bacteria to do this. Reference: http://www.sciencedaily.com/releases/2007/06/070619173537.htm Thanks, I wasn't aware of that. This is one example of a more general point which is ignored by most nutritional studies, which is that we get important nutrients from our gut bacteria, and what kinds of gut bacteria you have depends on your general dietary history. It's well known for example that it takes quite a while for the gut bacteria to settle down and adapt to the new diet after switching from vegetarian to omnivore or vice versa. So trials in which people are switched to a new diet for a few weeks may give misleading results. Also an excellent point. The body takes time to settle down and eventually the gut bacteria would have produced a new environment - probably quite different to that during the transition period. Here is the actual study abstract: http://aem.asm.org/cgi/content/abstract/73/4/1073 Note the period of the study: In this study, 19 healthy, obese (body mass index range, 30 to 42) volunteers were given in succession three different diets: maintenance (M) for 3 days (399 g carbohydrate/day) and then high protein/medium (164 g/day) carbohydrate (HPMC) and high protein/low (24 g/day) carbohydrate (HPLC) each for 4 weeks. Stool samples were collected at the end of each dietary regimen. Only 4 weeks. My immediate reaction is to wonder what the results would be after 12 months. Or longer. As a side issue, there have been a few shows recently with titles like The Worst Jobs in History and World's Worst Jobs . The lab assistants who collected and examined the samples for this study would surely qualify. Cheers, Alan, T2, Australia. d&e, metformin 1500mg, ezetrol 10mg Everything in Moderation - Except Laughter.

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Low card diet drastically reduce the gut bacteria to do this. Reference:http://www.sciencedaily.com/releases/2007/06/070619173537.htm Randy, VERY interesting article. Thanks for the link. Almost no dietary trial, when they report carbohydrates, break that into fiber and 'net carbs'. Given that the gut-digestion of fiber is a major source of butyrate, that's a significant shortcoming. Adam Becker Sr Found the full study PDF if you're interested: http://aem.asm.org/cgi/reprint/73/4/1073 Experimental dietary regimen. The volunteers were weight stable (less than 2-kg change in recent months) on entry to the trial and were then offered an energy maintenance (M) diet (based on 1.6 resting metabolic rate) for 3 days. This diet comprised 13% protein, 52% carbohydrate, and 35% fat as calories. Subjects were then offered ad libitum two diets, which were either a high-protein, low-carbohydrate (HPLC; 30% protein, 4% carbohydrate, 66% fat as calories) diet or a high-protein, moderate-carbohydrate (HPMC; 30% protein, 35% carbohydrate, 35% fat) diet, each supplied for 4 weeks in a randomized crossover design. Between the two main diet periods and at the end of the study the subjects were given the maintenance diet for 3 days. All meals were of the same energy density (5.5 MJ/kg), and daily intakes were recorded by weight. Daily macronutrient intakes were calculated using the Windiet software program (Robert Gordon University, Aberdeen, United Kingdom), based on the type and quantity of each ingredient consumed and published food composition tables (24). Diet intake was analyzed (Johnstone et al., submitted) for maintenance, HPMC, and HPLC diets (Table 1). TABLE 1. Dietary intake (g/day) indicating mean values for 7 days preceding fecal sample (3 days for maintenance diet) Diet Fat Protein Carb NS Starch Maintenance 122.9 94.3 398.8 27.9 187.3 HPMC 74. 127.2 163.6 11.7 95.3 HPLC 126.0 119.5 23.9 6.1 2.7 By my standards HPLC was both extreme low-carb and extreme high-fat. The crossover method also has problems for me when used in a dietary trial. Three days is hardly long enough to get rid of residual effects from the previous month and there is also the effect of shocking the body twice. In searching the pdf the only time the word fibre or fiber appears is in the references (45, 49). One wonders whether the correct title should have been a Reduced Dietary Intake of Dietary Fibre by Obese Subjects Results in Decreased Concentrations of Butyrate and Butyrate-Producing Bacteria in Feces . As a digression, I could not find any reference to the subjects weight differences between start and finish or A1c variations. With all the expenses involved in a trial like this, how much extra would it have cost to put them on the scales or take blood samples to look at glucose and lipid changes and similar factors? Or did they, intending to maximise their grant funding with separate papers on those subjects? Finally, I think they summed up well in their final paragraph: The present study was of limited duration, and it is unknown whether the relatively short period of reduced butyrate and SCFA supply to the colonic mucosa would have long-term consequences for gut health. Such considerations may become important if low-carbohydrate diets are consumed for longer periods without ensuring that adequate forms of appropriate fermentable substrates comprise part of the diet. Words like limited and unknown and may suggest to me that the only conclusion that can be reached is that further study over a longer term with a better-designed trial is warranted. Cheers, Alan, T2, Australia. d&e, metformin 1500mg, ezetrol 10mg Everything in Moderation - Except Laughter.

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