THE MCDOUGALL

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INFORMATION

THE GREAT CHOLESTEROL CONTROVERSY

Are You Confused?

National interest in cholesterol has been heightened to new levels by an article in the September issue of <u>The Atlantic</u> Monthly, by an "investigative reporter," Thomas Moore. On the surface this sensational article seems to be saying cholesterol is unimportant with regards to your health. You might first wonder why this article in an obscure publication by a non-medical person attracted so much attention? *People like to hear good news about their bad health habits.* Now they can guiltlessly indulge in all their fatty favorites. At the same time the "cholesterol-sellers" in the food industry must be thrilled to have some of the heat off their products.

More Truth Than Fiction?

Actually many of the issues being raised by the cholesterol controversy are well founded. Unfortunately, the casual reader is likely to misinterpret much of the information. The cholesterol controversy is not new, the medical literature has aired divided opinions on these issues for many decades.

The Controversies:

Behind each issue is important background information that will help you understand the reasons for disagreement and lead you to make the corrects decisions for your health:

"Diet has hardly any effect on your cholesterol level"

Every week someone comes to my office because they have an "incurably high cholesterol--probably genetic." They have been to their doctor, and often been passed on to the dietitian. A "low-cholesterol" diet was prescribed and their cholesterol level didn't budge. The reason: the advice they received from these health professionals was incorrect and ineffective.

Diets generally prescribed don't help because they ask too little of the patient. Changing from 3 1/2 ounces of beef (70 mg of cholesterol) to skinned (white meat) chicken (77 mg of cholesterol) or to mackerel fish (95 mg of cholesterol) is no real change at all and the results of such advice are reflected in <u>no real change</u> in the patient's blood tests or health.

Three scientific studies have examined the effect of changing meats from beef to chicken or fish on people's cholesterol:

1. Flynn, M. Serum lipids in humans fed diets containing



beef or fish and poultry. American Journal of Clinical Nutrition 34:2734, 1981;

2. Flynn, M. Dietary "meats" and serum lipids. American Journal of Clinical Nutrition 35:935, 1982;

3. O'Brien, B. Human plasma lipid responses to red meat, poultry, fish, and eggs. American Journal of Clinical Nutrition 33:2573, 1980;

All three came to the same conclusion: Exchanging beef, chicken and fish does <u>not</u> result in significant changes in blood cholesterol levels.

The same ineffective advice that patients receive in their doctor's office is incorporated in multimillion dollar cholesterol studies such as the Multiple Risk Factor Intervention Trial (MRFIT) and the Coronary Primary Prevention Trial (CPPT), and the results are a meager 4 to 7 percent reduction in cholesterol, at best.

Rather than believing diet is not the answer to high cholesterol and heart disease, the observant reader of Mr. Moore's original article in <u>The Atlantic Monthly</u> would have caught his insightful statement, "The lesson of international studies may ultimately be that only a diet almost entirely free of animal fat and cholesterol will lower blood-cholesterol levels reliably."

Under my care at St. Helena Hospital and Health Center, 180 people followed a diet free of animal fat and cholesterol and gained an average cholesterol reduction of 28 mg/dl, or 12 percent, in 11 days. Many people exceed a 100 mg/dl reduction in less time than most of us spend on a summer vacation. Similar diets prescribed by other investigators have demonstrated a 25 to 37 percent reduction in cholesterol in one month.

Inherited problems with cholesterol metabolism occur in about 1 in 500 people. For most people the primary reason they inherited high cholesterol from their parents is through education--mother and father teach children how to cook and what foods to like. This kind of family tendency is easily remedied by reeducation.

<u>' 'Blood cholesterol levels have little relation to heart</u> <u>disease</u>"

The basis for this contention is that most heart attacks happen to people with "normal" cholesterol levels (200-250 mg/dl). However, "normal" is defined by what is common in our society, and Americans are on the average very sick people: after all half of our wealthy population dies of heart attacks and strokes, prematurely.

In the U.S., 57% of all adults have a cholesterol of 200 mg/dl or greater, and 27% have a cholesterol over 240 mg/dl (JAMA 262:45, 1989). Death from heart disease is common when cholesterol levels are above 180 mg/dl. Because dangerously high cholesterol levels are so common people can't "see the forest for the trees." Levels of 150 mg/dl or

less (levels seldom seen in adults in the U.S.) are associated with no heart disease.

In other societies, where people rarely, if ever, suffer from heart disease, the usual adult cholesterol levels are 130 mg/dl to 160 mg/dl. People living in rural Japan, China and Africa are gifted with an immunity to heart disease until they move to a wealthy society and change their diet.

"For the elderly and women of all ages, blood cholesterol levels have no relation to heart disease"

Blood cholesterol levels strongly predict the risk of middle aged men dying of heart disease. For mysterious reasons, heart disease is almost unknown in women capable of reproduction. (Nature's design protects human reproduction?) If a woman loses her ovaries by surgery or their function ceases from natural menopause then her risk of dying from heart disease approaches that of the male population of the same age.

The importance of blood cholesterol levels in older men and women is obscured by two developments. First, those men most susceptible to heart disease have already died in their middle ages leaving only the more hearty ones to see old age. Secondly, cholesterol levels vary greatly among younger people, but by the time men and women have reached their sixth decade of life almost all survivors have accumulated a dangerously high level of blood cholesterol.

"Diet has little effect on death and disease in general"

Almost everyone in our population has far exceeded the threshold of fat, cholesterol, salt and protein required to cause serious illness. Now the important determinants of illness become metabolic strengths and weakness laid down by our heredity and other health habits.

Consider this example: If 15 cigarettes a day provides all the tar necessary to cause lung disease, and 30 does no more to foul the system, then a person's internal resistances will determine health or illness. If you only study cigarette smokers you might not be able to identify the effects of tobacco as harmful--everyone exceeds the threshold of tobacco use required to cause lung disease. Your vision is further clouded if you believe tobacco use is normal, since, after all, everyone you meet smokes. To easily unravel the health hazards from tobacco, you will have to compare smokers with nonsmokers, of course.

Because everyone eats a similar diet, studies within our society find few differences and yield few clues about the origin of common diseases. There is no difference from being "greased out" at McDonalds or Kentucky Fried Chicken. Scientists must compare people with dissimilar diets to find clues to disease origins. Try contrasting the health of rural Chinese with their rice diet to Americans--the most casual observer would be struck by the influence of diet on health.

Not only does your diet determine whether or not you will die prematurely from heart disease, you also risk stroke, obesity, diabetes, gallbladder disease, multiple sclerosis, arthritis, and bowel problems from ulcers to hemorrhoids when you choose to eat like royalty seven days a week.

<u>'Low blood cholesterol levels may be unsafe</u>"

Studies of people living in America have shown higher rates of cancer with lower blood cholesterol levels.

In our society where everyone eats too much fat and cholesterol, differences in metabolism play an important role in determining disease. Most people absorb cholesterol readily into the blood where levels rise, arteries are damaged, and heart disease develops. A few people, however, leave most of the cholesterol in their intestine or are able to excrete large amounts through the liver back into the intestine. Cholesterol acts as a co-carcinogen--a cancer helper in the intestine, and increases the risk of developing cancer.

Another explanation may be the use of polyunsaturated oil. Diets high in vegetable oils lower blood cholesterol, but promote the development of cancer. You may run less risk of heart disease by changing your dinner fats to olive and corn oil, but you will still pay a serious price--more cancer.

"Blood cholesterol tests are inaccurate"

If your day will be ruined by a few points rise in cholesterol then you are likely to be disappointed, because tests just aren't that accurate. If you have your cholesterol checked by finger stick at the drug store, rather than a commercial laboratory, then the accuracy is even worse.

However, you really don't need values correct to within a few points to determine your course of action. A ball park range of about 30 mg/dl--accuracy any level testing machine should achieve--is usually sufficient. You're in trouble whether your reading is 250 mg/dl or 280 mg/dl, and a level of 160 mg/dl or 130 mg/dl should make you happy with your progress.

Controversy Is Essential

The worst fate any important idea faces is to be ignored. Careful examination and debate will eventually settle on the truth. Heightened interest caused by the recent controversies should lead perceptive people to the conclusion that a no-cholesterol, low-fat, starch-based diet is the only sensible answer to the very serious epidemic of dietary disease plaguing our country and now spreading to the rest of the world.

MEDICAL RESEARCH

Lack of Awareness and Treatment of Hyperlipidemia in Type II Diabetes in a Community, by Michael Stern in the July 21, 1988 JAMA, (262:360). Cardiovascular disease is the leading cause of death and disability among diabetics. Despite this, there is virtually no data regarding the awareness and treatment of hyperlipidemia (high cholesterol) among diabetics in communities. These investigators found 364 Mexican-Americans and 86 non-Hispanic whites with type II (adult-onset) diabetes out of over 6,000 people studied in San Antonio, Texas. More than 40 percent of the diabetics had elevated cholesterol levels and 23 percent had elevated triglycerides and/or low HDL-cholesterol levels. By contrast, only 25 percent of non-diabetics had elevated cholesterols. Only 25 percent of non-Hispanic whites with diabetes were aware of their elevated cholesterol and less than 10 percent were receiving treatment. Awareness and treatment were even less frequent among Mexican Ameri-'cans with diabetes. According to the authors, "The results of this study indicate that San Antonio physicians are more aggressive in their efforts to control hyperglycemia with hypoglycemic agents than they are in treating the hyperlipidemia that so often accompanies type II diabetes." Even though the interest in treating elevated blood sugar (hyperglycemia) may be high the results are lackluster. Blood sugar levels averaged 187 mg/dl for diabetics receiving no treatment or diet only; 186 mg/dl for those on oral agents; and 196 mg/dl for those treated with insulin. No real difference at all, even with the best efforts of community physicians.

COMMENTS: In 1927, Joslin prophetically wrote, "I believe the chief cause of premature development of atherosclerosis in diabetes, save for advancing age, is an excess of fat, an excess of fat in the body (obesity), an excess of fat in the diet, and an excess of fat in the blood. With an excess of fat diabetes begins and from an excess of fat diabetics die, formerly of coma, recently of atherosclerosis" (JAMA 262:398, 1989). Coronary artery disease is 2.5 times--and disease of the peripheral vessels is 4.5 times--greater in diabetics than in nondiabetics. One reason for this is diabetics are weakened individuals unable to defend against injury and to repair damage as well as the person without diabetes. A minor infection in a diabetic's toe can lead to amputation or even death. Feeding the high cholesterol American diet--a diet known to cause half the deaths in our country from premature artery disease in people without diabetes--to diabetics causes rapid deterioration in the weakened body of a diabetic. Another possibility is those individuals who overindulge most in rich foods will take in the greatest quantities of fat and cholesterol and therefore be most likely to develop diabetes and atherosclerosis.

Six hundred African diabetics were recently examined for disease of their large blood vessels. Only 12 patients had evidence of heart disease, 7 had strokes and 10 had peripheral artery disease (Br Med J 296:1522, 1988). This low incidence of blood vessel disease is also found among Asians with diabetes. The reason is obvious: Africans and Asians consume a very low-fat, low-cholesterol diet which keeps them healthy in spite of their diabetes. Furthermore, the actual incidence of diabetes in Africa and Asia is quite low.

Many independent investigators have been able to dramatically improve the blood sugar levels in type II (adult) diabetes with a high fiber, low-fat, high-carbohydrate diet--results demonstrate about 75 percent stop all insulin and over 95 percent stop oral agents. Fortunately, this is the same diet that will keep diabetics healthy by preventing strokes, heart attacks, and other diseases common in these people. Type I (childhood) diabetics will realize the same advantages for preventing early death and disability by following a healthy diet; however, they will not be able to stop insulin. Diet must be the foundation of diabetes therapy because rug therapy is ineffective, at best. A large study on the treatment of type II diabetics with insulin, the UGDP study, found no reduction in cardiovascular complications with insulin therapy compared to diet alone, regardless of how aggressive the therapy was applied (Diabetes 31:1, 1982). Diabetic pills (oral hypoglycemic agents) have been found to increase the risk of death from heart disease by 2 1/2 times over diet alone during 5 to 8 years of the UGDP study.

The Risk of Breast Cancer after Estrogen and Estrogen-Progestin Replacement by Leif Bergkvist in the August 3, 1989 issue of the New England Journal of Medicine (321:293). This study was done to examine the risk of breast cancer after noncontraceptive treatment with female hormones in 23,244 women over the age of 35 years During the study period of 5.7 years 253 women developed breast cancer. The results showed the following increases over women who did not take hormones (1.0 represents no increase):

Overall risk with estrogens	1.1	
After 9 years of estrogen	1.7	
Estradiol treatment after 6 years	1.8	
Conjugated estrogens	1.0	
Estriol, other types	1.0	
Estrogen/Progestin (6 vr.)	4.4	
Estrogen/Progestin (3 vr.+)	2.3	

"We conclude that in this cohort, long-term perimenopausa treatment with estrogens (or at least estradiol compounds) seems to be associated with a slightly increased risk of breas cancer, which is not prevented and may even be increased by the addition of progestins."

COMMENTS: I have mixed feelings about what course women should take concerning hormone therapy and this recent study compounds my decision making. Consider the benefits and risks:

Benefits: Hip fracture (osteoporosis) rates are cut in half less heart disease, relief of climacteric symptoms (hot flashes depression, etc.), vaginal tissues strengthened for sexual intercourse.

Risks: Uterine cancer rate is 5 to 14 times higher, breas cancer increased, 4 times more gallbladder disease from estrogens alone. Adding progestins (progesterone) raises triglycerides and lowers HDL cholesterol thereby increasing the risk of heart disease-negating any benefits estroger therapy provides when used alone. With this combination you will likely have menstrual bleeding (periods) for the rest of your life-Yuck! Now there appears to be 4 times the risk of breast cancer from the addition of progestins to estrogens.

Rational: For women without a uterus (30 percent of women have had a hysterectomy by the time of menopause) the advantages may outweigh the disadvantages when taking estrogen alone--especially the conjugated estrogens, rather than estradiol. However, if you eliminate the advantages by dealing with the causes of osteoporosis and heart disease then you're left only with the disadvantages. (Heart disease is caused by a high fat, high cholesterol diet; and osteoporosis is from a high (animal) protein diet and lack of exercise).

For most of those women with a uterus the disadvantages outweigh the advantages. Taking the progestins to reduce the risk of uterine cancer increases your chance of breast cancer by four-fold.

Women who have intolerable climacteric symptoms may be left with no other choice than to take estrogens. Whether or not they should add progestins if they have a uterus is a question I cannot answer. Women interested in a sex life long after nature intended can use estrogen vaginal creams once or twice a week. A small amount of the cream is absorbed into the body, but no increase in cancer risk has been found. My recommendation would be for you to not take estrogens, unless there is an over riding indication, and to eat a healthy diet and live a healthy, active, life--you knew that already.

Brand Names:

Conjugated estrogens (no increase in breast cancer found) include Conjugated Estrogen Tablets. PMB 200. PMB 400. and Premarin.

Non-estradiol compounds (no increase in breast cancer found) include Estrovis. Estrone. Menrium. Natural Estrogenic Substance. Ogen. TACE. Estradiol compounds (80 percent increase in breast cancer risk) include Estinyl. Estradurin. Estrace. and most birth control pills.

Brand names of progestins include Amen. Aygestin. Curretab. Depo-Provera. Micronor. Norlutate. Norlutin. Nor-Q.D.. Ovrette. and Provera. Vaginal Creams include DV Cream. Estrace Vaginal Cream. Ogen Vaginal Cream and Premarin Vaginal Cream.



All 3 recipes contributed by Susan Betancourt, Oakland, CA.

SPICY SWEET POTATO AND VEGETABLE STEW

Servings: 4

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- 2 medium sweet potatoes or vams, peeled and cubed
- 2 stalks celery, sliced on diagonal
- 1 green pepper, roughly chopped
- 1 large onion, sliced

2 medium carrots, quartered and sliced in 1" chunks

- 1 16-oz. can of whole tomatoes, cut in pieces
- 3" piece of stick cinnamon
- 1 1/2 cups water

Tamari (low-sodium soy sauce) to taste

Freshly ground black pepper

Generous pinch of cayenne

2 tablespoons arrowroot or cornstarch dissolved in 2 tablespoons water

1/4 cup chopped lightly toasted cashews or freshly chopped parsley as garnish.

Place all ingredients, except for the arrowroot or cornstarch and the garnish, in a large soup pot and simmer for 30 minutes or until all the vegetables are tender. Add arrowroot or cornstarch dissolved in water, stir until slightly thickened, and adjust seasonings, if necessary.

Garnish and serve over a grain or pasta.

QUICK YEAST TART CRUST

1 cup warm water 1 tablespoon dry yeast 2/3 cup whole wheat pastry flour 1/3 cup cornmeal 1/2 teaspoon honey

1/2 teaspoon salt

Mix ingredients together to make a thick sponge. Stir with spoon briskly about 50 times. Cover bowl and place in warm place for about 1/2 hour or until the batter is bubbly. Add enough pastry flour to make a soft, sticky dough. Pour into a 10" pie plate or baking pan that has been oiled very lightly. Sprinkle a little flour on top of dough so that you can pat the dough in the pan and up the edges about 1 1/2". Let rise 1/2 hour in warm place. Bake at 375 degrees with filling of your choice on top, for 30 to 45 minutes.

Filling option: Bunch of chard, washed and chopped, one onion sliced, one carrot grated and one clove garlic chopped. Saute in pan till vegetables are just tender. Add a tablespoon of tamari and pour onto tart crust.

YEAST WAFFLES

- 2 1/2 cups warm water
- 2 cups whole wheat pastry flour

2 tablespoons oat bran

2 tablespoons molasses or honey

- 1 tablespoon dry baking yeast
- 1/2 teaspoon salt

Combine water, flour, bran, molasses, or honey, and yeast and salt in a large bowl. Stir with a spoon not more than 50 times or until smooth. The batter will be thin, but will thicken. Cover bowl and place it in a warm place for 30-45 minutes, or until the batter is bubbly and thick. Bake in a non-stick waffle iron. Iron can be seasoned lightly with liquid lethicin or oil, if necessary.

Makes approximately seven 7" round waffles. Crisp and delicious. Serve with favorite topping.

Options: Two peeled and grated apples can be folded into batter after it has risen and just before the waffles are baked. Likewise, two mashed bananas folded into batter after it has risen makes a delicious waffle.

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