

Requiem for Palliative Cardiology

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This article appeared in the August 1, 1999 issue of The American Journal of Cardiology. It offers the most dramatic proof that the adoption of a simple plant-based diet can arrest and reverse coronary artery disease in a consistent manner. These findings, as well as the author, provide a frontal, broadside attack on the current clinical emphasis of aggressive invasive interventions, including coronary artery bypass, angioplasty, or stenting. These interventions are contributing to a national heart disease bill, which exceeds \$250 billion annually. (A bypass, without clinical complications, on the average, costs \$60,000. An angioplasty with stent, now runs \$37,500.) They are also associated with 240,000 deaths during the last decade. These mechanical interventions treat only the symptoms. They do not treat the disease. Not surprising therefore, patients who receive these interventions usually experience progressive artery narrowing—the disease marches on—with graft shutdown, restenosis, more procedures, progressive disability, and death from the disease. Thus, the author concludes, “the leading killer of men and women in Western civilization is being left untreated. We practice palliative cardiology: nontreatment of heart disease leading to disease extension and frequently an eventual fatal outcome.” Dr. Caldwell Esselstyn, an eminent surgeon who turned into a lifestyle interventionist, is now a preventive cardiology consultant at the well known Cleveland Clinic. He documents in this article what happened to his 24 heart disease patients who entered his study in 1985. It may turn out to be the most important medical article of the decade. (Gratefully used with permission from the publisher.)

—the Editor



An Overdue Requiem for Palliative Cardiology

Modern cardiology has given up on curing heart disease. Its aggressive interventions—coronary artery bypass graft, atherectomy, angioplasty, and stenting—do not reduce the frequency of new heart attacks or prolong survival except in small subsets of patients.⁽¹⁾ For most patients these procedures do not treat life-threatening plaques.^(1,2) Thus, it is clear that the goal of cardiology has become the relief of pain and unpleasant symptoms in the face of progressive disability and often death from disease. It is time to call this approach by its true name: palliative cardiology. It is also time to acknowledge that this approach is not the only alternative for our patients.

Reversing Disease

In this article, I will present converging lines of evidence (many of them well-known and universally accepted) reiterating that when serum cho-

lesterol levels are maintained below 150 mg% (3.8 mmol/L), coronary artery disease is practically nonexistent.(3,4) In a small group of my own patients, a 12-year follow-up shows prospective data confirming that a very low-fat diet and lipid-lowering medication causes disease to halt or regress. I will also show that this fact can—and must—be made on the basis of a truly curative cardiology that prevents, halts, and selectively reverses heart disease.

“Some 240,000 coronary patients have died as a result of surgical interventions.”

Cholesterol Pivotal

Although coronary artery disease is the leading killer of men and women in the USA, it is rarely encountered in cultures that base their nutrition primarily on grains, legumes, lentils, vegetables, and fruit. In the Framingham study, people with cholesterol levels between 160 and 200 mg% accounted for 35% of those with coronary heart disease, but among those with levels below 150 mg%, the disease was rarely encountered.(5,6)

For over a decade it has been known that sufficient reduction of lipids may arrest and, in some cases, reverse coronary artery disease.(7) An analysis of 35 cholesterol-lowering studies confirms that the benefits are directly related to the degree of cholesterol reduction.(8)

This was dramatically confirmed when the Air Force/Texas Coronary Atherosclerosis Prevention Study (AFCAPS/TexCAPS) of cholesterol reduction in more than 6,500 persons had to be prematurely stopped because of high mortality among controls, who had an average total cholesterol of 221 mg%.(9) During follow-up (mean 5.2 years), 95 new myocardial infarctions were documented in the control group and 57 in the treated group.

Modern cardiology identifies patients with coronary heart disease through history, physical examination, and stress studies. Coronary angiography is usually performed. Patients with >70% diameter stenosis often receive aggressive, invasive interventions, including coronary artery bypass grafts, atherectomy, angioplasty, or stenting. Radiation may be added to decrease restenosis after angioplasty, and drugs are prescribed to decrease clotting. These are some of the reasons why the USA spends over a quarter of a trillion dollars a year on heart disease.(10) [In contrast, Canada, with fewer interventions, achieves equivalent survival rates in older patients with coronary artery disease.(11)]

“Since cardiology only treats symptoms, America’s #1 killer is left untreated.”

Palliative Cardiology

Most patients who undergo these interventions do not have fewer new heart attacks or longer survival.(1) Life-threatening plaques are not directly treated.(2) The procedures themselves carry risks of new heart attacks, strokes, infections, encephalopathy, and mortality.(12) In addition, benefits

erode with time.(12) A recent editorial in the *New England Journal of Medicine* pointed out that stents are overused and overpriced, and that some may be implanted without adequate anticoagulants, increasing thrombosis risk.(13) By using the mortality figures calculated from an earlier study,(12) 1.1% of the 1 million angioplasty, stenting, and atherectomy procedures performed every year and 1.3% of the one million annual coronary artery bypass graft procedures, we compute 240,000 deaths in a decade from these procedures.

These mechanical interventions treat only the symptoms, not the disease. It is therefore not surprising that patients who receive these interventions often experience progressive disease, graft shutdown, restenosis, more procedures, progressive disability, and death from disease. Thus, the leading killer of men and women in Western civilization is being left untreated. What is being practiced is “palliative cardiology”: nontreatment of heart disease leading to disease extension and frequently an eventual fatal outcome.

LIFESTYLE MEDICINE APPROACH

5-Year Study

In contrast, a 5-year experience has shown excellent results in patients with severe coronary artery disease who followed a plant-based diet containing less than 10% fat and who took cholesterol-lowering medication.(14) During this arrest and reversal therapy their lipid levels fell significantly; they experienced no new coronary events, and angiography showed that their disease had stabilized and in some cases selectively reversed. The goal at study onset in 1985 had been to achieve a cholesterol levels below 150 mg%, the level seen in cultures where coronary artery disease is virtually absent.(3)

12-Year Study

Today, after 12 years, I have followed the original patient cohort to determine adherence, safety, adverse effects, and long-term benefits. The original cohort contained 1 woman and 23 men, all nonsmoking, nondiabetic, and nonhypertensive patients with severe, angiographically demonstrated coronary artery disease. They agreed to follow a plant-based diet with about 10% of calories derived from fat. They were asked to eliminate oil, dairy products (except skim milk and no-fat yogurt), fish, fowl, and meat. They were encouraged to eat grains, legumes, lentils, vegetables, and fruit. Cholesterol-lowering medication was individualized. The only goal was to achieve and maintain a cholesterol level below 150 mg%.

Six nonadherent patients were released within the first 12 to 18 months of the study, and they returned to standard care. By 1998, these patients, who initially had levels of angiographic and clinical disease equivalent to those of the adherent patients, had sustained 13 new cardiac events. The remaining 18 patients adhered to the study diet and medication for 5 years. At 5 years,

11 of these patients underwent angiographic analysis by the percent stenosis method. Angiography demonstrated disease arrest in all 11 (100%) and regression in 8 (73%).(14) (One patient admitted to the study with <20% left ventricular output died from a ventricular arrhythmia just weeks after the 5-year follow-up angiogram had confirmed disease regression. Autopsy revealed no myocardial infarction.) Angina initially reported by 9 patients was eliminated in 2 and improved in the remaining 7. The patients' mean prestudy cholesterol decreased from 237 to 137 mg% over 5 years.

During the 7 years since the conclusion of the 5-year study, all but one patient have continued to adhere to the prescribed diet and medication. Today, 12 years after study inception, the mean total cholesterol of the patients is 145 mg% (see *Results Summary* on page 38).

Adherent patients have experienced no extension of clinical disease, no coronary events, and no interventions. This finding is all the more compelling when we consider that the original compliant 18 participants experienced 49 coronary events during the 8 years before the study while being treated and monitored at the Cleveland Clinic's Cardiology Department.

“During the 8 years before they changed their diet, the 18 patients suffered 49 coronary events. Over the next 12 years, they suffered none.”

Paradigm Shift Needed

These results are particularly important in that they show that arrest and reversal therapy stops, rather than slows, coronary atherosclerosis. I argue that we must redefine what we mean by the phrase “the treatment of coronary atherosclerosis.” We must shift the paradigm from interventional palliative cardiology to arrest and reversal therapy, which achieves numerical lipid goals that, when maintained, will abolish disease progression.

Enhancing Adherence

Adherence is the key factor upon which Arrest and Reversal Therapy (A.R.T.) depends. Four techniques were used to promote adherence and reinforce the plant-based diet:

- (1) At enrollment, treatment objectives were discussed in an in-depth, 60 to 90-minute interview with each participant and spouse.
- (2) Patient adherence and lipid results were monitored through biweekly visits for the first 5 years. Such immediate recognition in achieving lipid goals is critical reinforcement and provides the patient with real-time proof of success. Visits became monthly during the second 5-year period and have been quarterly for the past 2 years.

- (3) Throughout the first year I called each patient on the evening of the clinic visit to review the lipid profile and any needed dietary or medication adjustments.
- (4) Several times a year a group meeting was held at my home or the home of a participant to review treatment objectives, exchange menus, and socialize. Continued frequent patient encounters appear critical to teach dietary knowledge and reinforce new habits. Patients reported that their physician's commitment to the same diet was additional motivation.

Focus on Cholesterol

The study focused solely on lipid reduction through medication and diet, addressing, as Roberts has stated, "the only true risk factor for coronary artery disease—a cholesterol above 150 mg%."(15)

Combining a plant-based diet with medication achieves better long-term results than changing diet alone or combining modest diet changes and medication.(16-18) With such compelling long-term benefits, patients become empowered because they feel in control of the disease that was formerly destroying their lives.

The successful results from A.R.T. in this group of patients suggests it should be offered to all patients with coronary heart disease. These significant lipid reductions were undoubtedly the result of our unrelenting persistence in dietary adherence combined with a statin agent. Nevertheless, these reduced lipid levels are still in the range of normal for nations where the disease is absent.

Inadequate Dietary Goals

Despite the benefits of a very low-fat diet and of low lipid levels, the American Heart Association, the National Research Council, and the National Cholesterol Education Program recommend a 30% threshold for fat calories in the diet and a total cholesterol not above 200 mg% (19,20). But coronary artery disease develops and progresses with these guidelines thus condemning millions of Americans to this epidemic.(9,16,18)

By way of contrast, no one maintaining a cholesterol below 150 mg% has succumbed to coronary artery disease in the Framingham study.(6) T. Colin Campbell in the Cornell-China study, reports hundred of thousands of rural Chinese going years without a single coronary event.(4)

CONCLUSION

Epidemiologic and evidence-based research has identified a lipid threshold for preventing the coronary artery disease epidemic. We have demonstrated that this threshold can be achieved and maintained with a plant-based diet and lipid-lowering medication when indicated, and that maintaining low lipid levels arrests and often reverses coronary artery disease.

Results Summary

18 Coronary Patients Cleveland Clinic Study

Treatment: Traditional Cardiology

1977-85

49 Coronary events in 8 years.
Cholesterol average **237 mg%**

Treatment: Lifestyle Medicine

1985-90

0 Coronary events in 5 years
Cholesterol average **137 mg%**
Disease arrest in **100%**
Disease regression in **73%**
Angina improved in **100%**

1985-97

0 Coronary events in 12 years
0 Bypass surgeries
0 Angioplasty surgeries
0 Disease extension
Cholesterol average **145 mg%**

NOTE: Of the initial 24 patients, 6 patients dropped out within 18 months. They subsequently suffered 13 coronary events.

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