Comparison of Low-Fat Versus Mediterranean-Style Dietary Intervention After First Myocardial Infarction

Heart disease is one of the top leading causes of death in the United States (CDC, 2005). There are approximately 1.5 million myocardial infarction (MI) cases each year (Garas, 2006). The incidence of having a MI increases after age seventy (Garas, 2006). A myocardial infarction, or heart attack, occurs when there is a blocked blood supply to the heart due to a clot. This clot can be caused from the build up of plaque in the arteries from atherosclerosis. This blocked blood supply causes damage to the heart muscles.

This study focuses on a dietary intervention trial of patients who recently suffered a myocardial infarction. The study was done to see if a Mediterranean style diet, focusing more on omega 3 fatty acids, was better than a low-fat diet for the treatment of reducing the risk of having another MI. The purpose of this research was to see if changing dietary habits directly after a MI would have an effect on if patients would have a second MI. This is very important in the dietetics field, because if changing the dietary habits and switching them to a low-fat or Mediterranean style diet can save them from having another MI, then this would save many people from suffering through a life threatening attack. Figuring out which diet is better for the treatment of an MI is also necessary. There have been many speculations about which diet is better, and this article looks into the subject more in depth. It can also answer the questions: Should fish be emphasized? How important are omega 3 fatty acids? Is there an effect with dietary change at all?
The researchers main focus was to figure out which diet is better for treating patients who have just had their first MI. Both diets were low in saturated fat and cholesterol. The intake for saturated fat was less than 7 grams, and the intake for cholesterol needed to be under 200 mg/day. The Mediterranean diet allowed for 10 grams more of monounsaturated fats. Both diets recommended a high intake of fresh fruits and veggies, along with whole grains. The Mediterranean diet emphasized cold water fish, and olive oil, soybean oil, and canola oil. The hypothesis was that the low-fat diet would be better, since it is lower in total fat. I realize that monounsaturated fats are good fats, and they can help with the total intakes, but I believe that keeping total fat low is more necessary. The study states that there are claims that a diet with increased omega 3 FA intake adds benefits beyond just a low-fat and low cholesterol diet.

The study design was case-control. It was a randomized clinical trial. There were three different groups of participants. One group followed a Mediterranean style diet, one group followed a low-fat diet, and one group followed a “usual” diet. The dependent variable in this study is the myocardial infarction, and the independent variable in the diet. The incidence of another myocardial infarction happening again is dependent on the diet. Altering the diet can have an effect on another myocardial infarction occurring. The variables that they controlled were age, sex, diagnosis and type of MI, and history of diabetes mellitus. They excluded patients if they had heart failure, ventricular arrhythmias, and uncontrolled hypertension. Some confounding variables were socio-economonic status and race. All participants were selected by physicians, and had a MI less than 6 weeks prior to the start of the intervention. All were men, and all of their labs were checked for the biochemical markers that prove there was a heart attack. Smokers
were allowed to participate in this study. All participants received counseling throughout the entire study, both individual and group. Two of the counseling sessions were within the first month of the study, and they followed up at 3, 6, 12, 18, and 24 months. The 6 group sessions were separate from these, and they were dispersed throughout the course of this study. Although this was not a target goal of the study, those who were obese or overweight were encouraged to reduce caloric intake to promote weight loss.

Termination of smoking or increased exercise were suggested, but not required. All participants were notified of their diet assignment by receiving a sealed envelope from a registered dietitian. All diets were assigned randomly, however this was not a blinded study so the intervention team and participants all knew who had which diet.

Data was collected through 3-day food diaries, which the participants reported and recorded themselves. There was a briefing and teaching on the proper ways to record food intake. The intake records were analyzed by a nutrition software, and data was computed from there. The participants also had to get laboratory measurements taken, and their albumin, blood lipids, fasting glucose, insulin, and lipoprotein A were all analyzed. Medications were reviewed periodically.

This study found that both the Mediterranean style diet and the low-fat diet worked equally the same on the cessation of MI in post MI patients. There were better outcomes in the patients who received the dietary intervention, compared to the “usual care” control group. The follow-up lasted for 4 years, and the benefits were still evident in the diet intervention group. This dietary intervention disproved the assumption that by adding the omega 3 fats into the low-fat and low cholesterol diet would work better.
It was shocking to read that there was no difference in the results from the two diets, because I have heard before that increasing omega 3 fats in your diet is very beneficial. There were some limitations to this study, although the researchers did do a great job with trying to control all variables. One limitation is that it was not incorporative of all races and genders. This study was done on white males. Also, this study focused on the state of Washington, specifically the Spokane area. This does not take a look at the US in general. The south and their dietary habits are much different than the habits of those in Washington. Furthermore, this study was not blinded. If the researchers would have been blinded, there may have been different results.

There is much clinical significance to this study, because now one knows that both low-fat diets and Mediterranean style dietary interventions work just as well. These both can lead to a better outcome in post MI patients.