MALNUTRITION ASSOCIATED WITH CARDIOVASCULAR METABOLIC SYNDROME

DIETMAR GANN MD FACC
DIET OF HOPE INSTITUTE
How many gm of carbohydrate does our body need every day

1)  20 gm
2)  100 gm
3)  None
Questions

- How many people in this country are diabetic or prediabetic?
  - 1) 10 million
  - 2) 65 million
  - 3) 111 million
What food group is the culprit of the present epidemic of the metabolic syndrome?

- Fat
- Protein
- Simple carbohydrates
- None of the above
DEFINITION OF METABOLIC SYNDROME

AMERICAN HEART ASSOCIATION
Abdominal obesity men >40 in women >35 in
  Triglycerides > 150
  HDL<40 in men, <50 in women
  Blood Pressure >135 >85
  Fasting Glucose >110

BMI >25 according to Endocrine society
Diseases of Civilisation associated with the Metabolic Syndrome

- Obesity
- Diabetes
- Hypertension
- Dyslipidemia
- Gerd
- Sleep apnea
- Osteoarthritis
- Polycystic ovaries
US POPULATION 315 MILLION

- 214 million are overweight or obese 68%
- 25 million are diabetic, 7 million are undiagnosed diabetic, 79 million are prediabetic (111 million or 35%)
- 90 million have Hypertension Bp>120/80 (28%)
- 105 million have Hypercholesterolemia Cholesterol >200 (33%)
- 75% of the US population have at least some features of the metabolic syndrome
Other components of the Metabolic Syndrome

- Insulin resistance and Hyperinsulinemia
- Proinflammatory status: CRP, Interleukins, elevated WBC
- Prothrombotic state: Fibrinogen
DEFINITION:

Malnutrition results from taking an unbalanced diet in which certain nutrients are lacking, or are in excess (too high an intake), or in the wrong proportions.(Webster)
Lack of nutrients

- Kwashiorkor (protein)
- Pellagra (niacin)
- Beri Beri (thiamine)
- Rickets (vitamin D)
- Scurvy (vitamin C)
EXCESSIVE CONSUMPTION OF Refined CARBOHYDRATES

Sugar, Sodas, most Breads, white Rice, most Cereals, Bagels, Chips, Cookies, Donuts, Cakes.

Average sugar consumption 170 pounds per person per year
Sugar cane available in Asia for thousands of years. Introduced to the Americas during 16th century. Sugar remained expensive.

Beet sugar became available in US in 1870. Cheaper.

High fructose corn syrup introduced 60 years ago. Really cheap.

Refining of carbohydrates became possible 120 years ago due to new techniques and machinerie
From a whole grain, the outer layer (bran) and the inner core (germ) are removed through grinding, mixing, bleaching, brominating.

Bran carries fiber and minerals. Germ carries most of the nutrition (Vitamins, Proteins, good Fats)

Refined grains are considered nutritionally inferior. However, they don’t spoil.
Refined carbohydrates have a high glycemic index and glycemic load. Minutes after they are consumed, they enter the bloodstream as sugar. White bread has a glycemic index of 100, sugar 70.

Quickly rising blood sugar triggers a significant insulin release. Prolonged overstimulation of insulin eventually leads to insulin resistance and chronically elevated insulin levels.
AGES

- ADVANCED GLYcation ENDPRODUCTS

- EXAMPLE: Hemoglobin A1C
Insulin is a storage hormone. It stores the sugar just eaten as glycogen in muscle and liver. Excess sugar is converted into fat.

Elevated insulin levels prohibit the release of fat from fat tissue.

Insulin promotes fluid and salt retention, raises blood pressure.

High insulin levels stimulate cholesterol production.

Insulin promotes inflammation.
THE GOAL OF ANY SUCCESSFUL DIET IS TO LOWER INSULIN LEVELS.

LIFESTYLE INDUCED HYPERINSULINISM IS STRONGLY LINKED TO CHRONIC INFLAMMATION, WHICH LEADS TO ARTERIAL MICROINJURIES, CLOT FORMATION (Heart disease) AND EXAGGERATED CELL DIVISIONS. (Cancer)
TRANSFATS

A fat recently introduced to our diet
Created by partial hydrogenation of polyunsaturated fat. (vegetable oil)
Inexpensive and very profitable for the food industry.

Food with transfats: french fries, baked goods such as cookies and cakes, non dairy creamer, fried fast food.

Transfats are strongly implicated in heart disease.
Why is there an epidemic of the metabolic syndrome and obesity

- Multiple Factors

- 1: Recommendation of a low fat diet by government and medical societies
  - The whole nation lowered fat consumption from 40% to 30%. Refined carbohydrates replaced fat.
  - A low fat diet predictably
    - Lowers HDL
    - Increases Triglycerides
    - Changes LDL to a small dense form
GERALD REAVEN

IF ALL THE NATION FOLLOWS A LOW FAT DIET AN EPIDEMIC OF OBESITY AND DIABETES WILL OCCUR

JAMA 1974
Other causes of obesity and metabolic syndrome

- Physical inactivity: catching chips with one hand and stretching the other hand to reach the remote control
- Supersizing
- Abundant availability of inexpensive refined food
- Constant advertising on TV especially to young children
Publication of the food pyramid in 1992

Every person age 2 or older should consume 6 to 11 servings of bread, pasta, cereal and rice every day

Now we have the food plate. No much change

You clearly see the handwriting of the food industry
PORTION CONTROL

- RHESUS MONKEY STUDIES
- LONGEVITY STUDIES
Portion Control
EFFECTS OF WEIGHT LOSS

- LOWERS CHOLESTEROL
- TRIGLYCERIDES
- BLOODSUGAR
- INSULIN LEVELS
- INFLAMMATORY CYTOKINES
Studies that contradict the beneficial effects of the low fat diet

- Lyon Heart Study
- Israel study
- Nursing Health Study
- Womens Health Initiative Study
- Atkins
Successful Diets

- South Beach Diet
- Mediterranean Diets
- Weight Watcher
- Ornish
- HCG
- Whole Plant Diet (Campbell)

- Amazon lists 20,000 diet books
All successful diets restrict refined, simple, non-nutritious carbohydrates.
Cows in feedlots are fed mostly corn. For a calf to grow full size it used to take 4 to 5 years. In modern feed lots it takes 14 months. Feeding Carbohydrates and adding growth hormones creates big fatty animals.
What food makes us gain weight?

- Carbohydrates make us fat
- Fat doesn’t make us fat
How many grams of carbohydrates does our body need daily?

None
50 gm
100 gm
60% of food intake
WHAT DOES OUR BODY NEED ON A REGULAR BASIS

- PROTEIN (MINIMUM .8 GM/KG)
- 20 AMINO ACIDS, 9 ESSENTIAL
- FATTY ACIDS (OMEGA 3 AND 6)
- VITAMINS
- MINERALS
- PHYTONUTRIENTS
DIET OF HOPE

- A TEACHING PROGRAM
- PROMOTES SIMPLE INEXPENSIVE FOOD
- NO DRUGS, NO ARTIFICIAL FOOD
DIET OF HOPE

THREE COMPONENTS

1: Refined carbohydrates are restricted

2: Portion control for proteins and fat.

Emphasis on good fatty acids and whole protein. Simple food.

3: Unlimited vegetables
DIET OF HOPE

- Results of the diet of hope in the first 100 patients with diabetes and the metabolic syndrome
- 1: Average weight loss 10.3% of body weight
- 2: Hgl A1c decreased from 6.9 to 6.25
- 3: Systolic BP decreased by 7.2 mmHg
- 4: Diastolic Bp decreased 4.9 mmHg
- 5: Total cholesterol decreased 11%
- 6: Triglycerides decreased 47%
- 7: HDL increased 4.7%
- 8: Total yearly savings on medications 1340 dollars.
DIET OF HOPE

- ONE YEAR FOLLOW UP ON 1000 PATIENTS

67% OF PATIENTS LOST AN ADDITIONAL 7.25% OF BODY WEIGHT
31% MAINTAINED THEIR 6 WEEK WEIGHT LOSS
2% GAINED THEIR WEIGHT BACK
Diet of Hope

- Statistics on weight loss diets
- 90% of people will gain their weight back in one to three years
- This explains most physicians nihilistic approach to diets
FACTS

- IN 2011 688 000 PATIENTS UNDERWENT PTCA
- 427 000 UNDERWENT CORONARY BYPASS SURGERY
- ONE IN 50 HAD KNEE REPLACEMENT FOR OSTEOARTHRITIS
THE FUTURE

- OUR MEDICAL SYSTEM WILL GO BANCRIPT IF NO CHANGE OCCURS
- BENEFICIARIES OF THE PRESENT SYSTEM
- PHARMA AND FOOD INDUSTRY
"No, it's not water. You seem to be retaining food."
SUGGESTIONS

- ELIMINATE SUBSIDIES TO THE CORN AND SUGAR INDUSTRY
- TAX SUGAR AND SODAS
- PROMOTE UNPROCESSED FOOD
- IF ITS PACKAGED OR ADVERTIZED ON TV DON'T BUY IT
LET FOOD BE YOUR MEDICINE
AND MEDICINE YOUR FOOD