

CARDIAC MYTHS

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Myth #1: Aspirin is Good for Everyone

- ▣ Primary : Large meta-analysis – no reduction in stroke or death; but 12% reduction in risk of MI
 - Would need to treat 1000 primary prevention pts for 1 yr to prevent 1 CV event
 - For every 10,000pts treated for 1 yr, 6 fewer coronary events and 2 fewer strokes at the cost of 1 additional stroke due to bleedings and 3 other serious bleeding events
- ▣ Secondary: Well established decrease in cardiovascular events; works equally well in men and women
 - For every 10,000 pts treated for 1 yr, 100 fewer coronary events, 46 fewer strokes, and 29 fewer deaths
 - Number of serious bleeding caused by asa: 5/10,000

Myth #2: Family History is a Death Sentence

- ▣ If a person has a first degree relative who developed CHD before age 55, risk for CHD is 1.5-2x higher, independent of other risk factors.
- ▣ Studies have been unable to find a “heart disease gene”
- ▣ This population needs more aggressive prevention treatment
- ▣ Family history is not a death sentence

Myth #3: Vitamins and Dietary Supplements Will Reduce Risk for CHD

- ▣ More than 300,000 dietary supplements sold in US
- ▣ Most are not FDA approved to treat disease
- ▣ Safety is not FDA assessed
- ▣ These supplements can be sold as long as they do not make a specific health claim
- ▣ FDA can force removal if they can prove it is dangerous
- ▣ As many as 40% of supplements contain contaminants like lead, bacteria, and pesticides

Supplements: Omega 3

- ▣ Single large randomized controlled trial supports taking 1 gm EPA/DHA that may benefit pts with MI. When started early after MI, reported reduced risk of death and life threatening rhythms
- ▣ Other trials suggest may reduce future cardiac events in those with CAD and no MI
- ▣ Small number of trials suggest may help pts with CHF to avoid readmission and live longer

Omega 3's, cont.

- ▣ Trial design for these studies in question
- ▣ Many other studies that have not been able to confirm benefit to cardiac pts---leads to reasonable doubt
- ▣ Safety issue: bleeding risk, contamination with mercury, is label reporting correct, indigestion, no strong track record
- ▣ Large trials of 30,000+: confirm they are safe for most people; consistent but weak evidence in pts with CAD or CHF, more info as studies are completed

Omega 3's, cont.

- ❑ In people with no CAD: no large randomized controlled trials to show benefit
- ❑ People who consume the most fish tend to be the least likely to develop CAD
- ❑ Some observations of high levels of omega-3's in the blood correlating with reduced risk of MI, but still no randomized controlled trial to confirm or refute this
- ❑ Should strive for 2 servings of oily fish /week

Red Yeast Rice

- ❑ Contains statin indistinguishable from lovastatin
- ❑ Amount in products is uncontrolled and unpredictable
- ❑ 1/3 of preparations contain contaminants that can be toxic to the kidneys

Plant Stanols and Sterols

- ❑ Block the absorption of cholesterol which can lower the LDL 5-8%
- ❑ Used alone, not a large enough impact

Soluble Fiber and Other Products

- ▣ Lowers LDL
- ▣ No randomized controlled trials to show improvement in outcomes for those with CAD
- ▣ Other products with no proven benefit:
 - Policosanol – high quality randomized controlled trial showed no effect
 - Garlic
 - Guggulipids – randomized controlled trial showed it increased LDL
 - Lecithin

Vitamin B Supplementing

- ❑ Elevated homocysteine associated with increased risk for heart disease and stroke
- ❑ Folic acid and B12 used to reduce homocysteine
- ❑ English study compared these with placebo in 10,000 MI survivors over 7 yrs: homocysteine levels reduced by 28% but had no effect on risk of MI, CVA, or death
- ❑ Another study of 8,000 CVA pts had similar findings

Antioxidants (Vitamin E)

- ❑ Oxidation of LDL is key step in development of arterial plaque. Theory was that preventing oxidation would prevent arterial plaque build-up.
- ❑ Animal studies with vitamin E used to inhibit cholesterol oxidation thus preventing or treating atherosclerosis in humans
- ❑ In pts taking E with statins, niacin or both, HDL dropped and plaque growth was increased
- ❑ Large trials proved absolutely no benefit from vitamin E

CoQ10

- ▣ Needed for energy production in our cells and is a weak antioxidant.
- ▣ Theory: low CoQ10 could lead to depleted energy stores in heart muscle, reduced heart function, and cellular damage. Led to use of CoQ10 supplement for heart protection. Very little data to support this.
- ▣ Some studies suggested lowers BP. If this effect exists at all, it is minor
- ▣ Large studies show statins lower CoQ10 in system. Studies also show no harmful effect on heart from this.
- ▣ Limited research has shown 60-200 mg of CoQ10 can reduce myalgia side effect

Myth #4: Red Wine is Better Than Other Forms of Alcohol

- ▣ Derived from the French paradox, 1979
- ▣ Observational studies showed that moderate alcohol intake associated with reduced risk of dying from CAD, risk of MI and live longer
- ▣ No randomized controlled trials with alcohol and heart health, all observational
- ▣ Main health benefit of moderate alcohol use: Reduction in MI's

Alcohol, cont.

- ▣ 2 mechanisms: improved HDL and reduction in blood clotting
- ▣ HDL increases 12%, may reduce risk of CAD development (similar to effect of aerobic exercise)
- ▣ Reduces blood viscosity as well as reducing the action of platelets and fibrinogen, thus making clotting less likely

Why Red Wine?

- ▣ Resveratrol: found in grape skin; relaxes arteries and reduces blood clotting
- ▣ Same dose resveratrol from glass of dark grape juice
- ▣ Pill form has proven no benefit
- ▣ Small studies have shown red wine is the most heart healthy form of alcohol. Greatest effects of increased HDL and decreased clotting comes from the alcohol
- ▣ More studies needed to compare different forms of alcohol

What is Moderate Consumption?

- ▣ Moderate = 1-2 drinks/day
- ▣ 1.5 oz of hard liquor
- ▣ 5 oz. wine
- ▣ 12 oz. beer
- ▣ No benefits to binge drinking
- ▣ Most studies are on middle age people
- ▣ In 70+, aim for lower end of moderate
- ▣ Men vs women: 2 vs 1
- ▣ Family or personal hx of breast, liver, or rectal cancer or if pregnant: no alcohol

Myth #5: Stents Prevent MI

- ▣ First placed in France in 1986; FDA approved in US in 1994
- ▣ Bare metal stents decreased rate of restenosis to 20-30%
- ▣ First drug coated stents placed in 2003
- ▣ Cut rate of restenosis to 10-15%

Courage Trial 2007

- ▣ Compared medical therapy vs stenting as initial treatment in pts with chronic stable angina
- ▣ Randomly assigned to either aggressive medical therapy vs optimal medical therapy with stenting
- ▣ After 5 years, no difference in % of people suffering MI or death
- ▣ Symptoms improved dramatically in both groups: 74% of stent group, 72% of medical tx were free of angina
- ▣ 1/3 of medical therapy pts eventually needed stent in addition to medical therapy for symptoms relief

Courage Trial, cont.

- ▣ Key pt.: Pts in both groups did equally well over the long term no matter what their initial therapy
- ▣ Conclusion: Initial strategy of medical therapy is the correct choice for most people with chronic stable angina. If chest pain recurs despite best medical therapy, pts can then undergo elective stenting.

Stents Do not Prevent Future MI's

- ▣ Plaque that causes MI's differs from plaque that causes chronic chest pain
- ▣ MI caused when surface of a plaque suddenly ruptures or erodes, leading to clot formation at the site and blocking of the artery
- ▣ MI causing plaques often do not result in tight narrowing of arteries, but only declare themselves when they rupture and the clot forms
- ▣ Stents are placed in narrowed arteries, not at the sites of possible future plaque rupture

Stents and MI's, cont.

- ▣ Still no way to tell in advance which plaques will cause a future MI
- ▣ Cannot use stents prophylactically to prevent MI
- ▣ Prevention best from aspirin, statins and other lifestyle measures to reduce risk of MI in pts with CAD
- ▣ For those with chronic chest pain, stents do not prevent MI or prolong life
- ▣ Most beneficial in the setting of MI as they will limit damage and save lives