Gallstones and Kidney Stones

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Survey: Who Is Our Audience?

- Have you ever passed a kidney stone? (Yes or No)
- Have you ever passed a gallstone? (Yes or No)
- The reason for watching this presentation is:
  (please mark all that apply)
  a) Seeking knowledge due to a health concern for myself or a loved one
  b) To increase my knowledge when consulting others in my business
  c) To get I-Inspire points and qualify to win prizes
  d) I just really like to learn
Prevalence of Kidney Stones in the Overweight and Obese Individuals

- Being overweight increases insulin resistance in the body
- IR increases the amount of calcium filtered into the urine
- This increases the risk of developing a kidney stone

Risk Factors for Developing Kidney Stones

The “Stone Belt” – Implications of Climate Change

Epidemiologic risks include living in hot, arid regions
Other Risk Factors for Kidney Stones

- Personal history of recurrent urinary tract infections
- Women with low estrogen levels
- Elevated uric acid levels (such as observed in gout or arthritis)
- Other medical conditions, such as chronic diarrhea, certain cancers, and inflammatory bowel disease
- Not exercising enough
- Hypertension
- Stress

Urolithiasis (Kidney Stones)

- Kidney stones are made up of salts and minerals in the urine that stick together to form small pebbles
- They are usually painless while they remain in the kidney but can cause severe pain when pieces leave the kidney and travel through the narrow tubes (ureters) to the bladder

Possible Symptoms of a Kidney Stone

- Fever and chills, vomiting, urine that is cloudy or pyuric, odorous urine, blood in the urine, a burning sensation while urinating, frequent urination, or extreme back or side pain that doesn’t go away – pain can also spread to the lower abdomen, groin, and genital area
Types of Kidney Stones

- Most kidney stones are made of Calcium Oxalate (70-80%)
- Uric Acid Stones (10-15%)
- Struvite Stones (10-15%) aka “Infection Stones”
- Cystine Stones (1%)

Common Cause of Kidney Stones

- The most common cause of kidney stones is not drinking enough water – the urine should be clear or a light yellow
- A lack of fluid increases risk for any type of kidney stone

Kidney Stone Formation

- Approximately 20% of individuals who form calcium oxalate stones have high oxalate in their urine
- Foods known to cause a high urinary excretion of oxalate or are lithogenic include:
  - Potato chips, chocolate and cocoa, green and black tea, beer, coffee, soda, red meat, alcohol, table salt
Kidney Stone Diet

- Fruits and vegetables provide an alkaline load to the body, thereby increasing the urine pH (make it less acid), especially lemons, oranges, and limes.
- Citrus fruits are high in citric acid, which can inhibit the growth of calcium kidney stones.
- Other lithoprotective foods are milk, almonds, yogurt, cashews, cheese, soybean, cranberry, broccoli, pineapple, salmon.

Other Dietary Recommendations

- Dietary calcium protects against stone formation by binding with oxalate and thereby reducing urinary oxalate levels.
- However, calcium supplements must be taken with food in those suffering from stones.
- Studies examined combination diets, and participants who followed a low animal protein diet component had a lower stone recurrence rate.

Question for you!
Assess Your Understanding

- The most common cause of kidney stone is not drinking enough water.
- Excessive dietary salt does not increase the risk for kidney stone formation.
- A simple supplement program and lifestyle changes can help prevent the formation of future kidney stones.

Possible Kidney Stone Prevention Prescription:

- Vitamin B6, in 50-mg tablets, may reduce the amount of oxalate the body produces
- L. Acidophilus probiotic therapy may be useful to reduce urinary oxalate
- Fiber and magnesium can inhibit the growth of stones
  - 200–400 mg daily – magnesium
- Omega-3 fatty acids
  - 2 capsules daily

With This New Knowledge, How Can I Help Others with Kidney Stone Prevention

- I can stress the importance of lifestyle changes and diet
- And I can recommend the following supplementation:
  - Vitamin B6, 50 mg. tablets: 1 per day
  - L. Acidophilus: 2 capsules per day
  - Magnesium Complex: 200-400 mg daily (2 - 4 capsules)
  - Super Omega-3 EPA: 2 capsules daily
A Trip To Disney!

- Doctors may have found an unconventional way to get rid of painful kidney stones.
- According to a recent study, researchers found that riding the Big Thunder Mountain Railroad roller coaster at Disney World helped ease the passage of small kidney stones.

Gallstones

- More than 20 million in the U.S. have gallbladder disease.
- Higher prevalence in Mexican-Americans.
- An extraordinarily high prevalence is found in American Indians (specifically, the Pima tribe from Arizona).

Who is at Risk for Gallstones?

- Women
- Over the age of 40
- Family history of gallstones
- Inactive lifestyle
- Iron deficiency anemia
- People who have diabetes, Crohn's disease, or liver disease
- A diet high in fat, cholesterol, and carbohydrates, while low in fiber
- People who take estrogen, progesterone
Relationship Between BMI and Gallstones

- Obesity, especially abdominal, is a well-known risk factor for gallstones
- It is associated with increased cholesterol secretion into bile
- Gradual weight loss is important for obese individuals because rapid weight loss may also promote gallstone formation

Gallstones (Cholelithiasis)

- Cholesterol stones are believed to form when bile stored in the gallbladder hardens into stone-like material
- Too much bilirubin, not enough bile salts, or when the gallbladder does not empty as it should are some other reasons gallstones form
- Drugs that lower cholesterol in blood can actually increase the amount of cholesterol secreted in bile, which, in turn, increases the risk of gallstones

Types of Gallstones

- There are two types of gallstones: pigment stones (made up of bilirubin) and cholesterol stones (made up of cholesterol)
- Cholesterol stones account for up to 85% of all gallstones
- Pigment gallstones may form in people who have certain conditions, such as cirrhosis of the liver or blood disorders
Possible Symptoms of Gallstones

- Nausea and vomiting
- Indigestion, bloating and heartburn
- Pain in the right upper region of the abdomen
- Sudden and rapid pain in the center of the abdomen
- Pain between the shoulder blades
- Pain in the right shoulder

The first sign of gallstones may be abdominal pain that is severe enough to send you to the emergency room.

Most people with gallstones remain asymptomatic.

Approximately 20% will develop true biliary possible symptoms, such as severe pain in the right upper quadrant that can radiate to the back or shoulder.

Metabolic Disorders and Gallstones

- Evidence indicates that simple sugars promote gallstone formation.
- A relationship also appears to exist between glucose intolerance and gallstones.
- Hyperinsulinemia may cause supersaturation of cholesterol in bile, and gallbladder dysmotility.
Fat in the Diet

• Should be low in saturated fats, but it should have sufficient sources of polyunsaturated fats and omega-3 fatty acids
• Studies showed that monounsaturated and polyunsaturated fats act as inhibitors of gallstones
• Fish oil can improve cholesterol solubility and enhance bile flow

Fiber in the Diet

• A higher intake of fiber is associated with a lower prevalence of gallstones
• Water-soluble fiber found in fruits, vegetables, pectin, oat bran, and guar gum may be helpful in preventing and treating gallstones

Foods Associated with a Reduced Risk of Gallstones

• Include fiber-rich fruits and vegetables, whole grains, nuts, coffee
• In the Nurses’ Health Study, a large prospective study, women who consumed nuts frequently had a more than 20% reduced risk of cholecystectomy
Not All Caffeine is the Same

• Interesting research has demonstrated that coffee can play a role in preventing gallstones.
• Coffee and its components have been shown to enhance gallbladder contractility, and decrease cholesterol crystallization in bile.
• This is not the case for other caffeinated beverages; in fact, a positive association was noted with caffeinated soft drinks.

Question for you!

Assess Your Understanding

• Gallstones can be as small as sand, and as large as a golf ball.
• Dietary fat and fiber increase the risk of gallstones formation.
A Possible Gallstone Prevention Prescription:

- Ascorbic acid (Vitamin C) supplementation significantly prolonged the time needed for cholesterol crystal formation.
- In an observational study of more than 2000 people, the prevalence of gallstones was half of what it was in study participants who did not supplement.

A Possible Gallstone Prevention Prescription:

- People who consume sufficient magnesium have lower rates of gallstones.
- A study showed that men consuming high amounts of magnesium through diet and supplements (average, 454 mg/day) were 28% less likely to have gallstone disease compared with men consuming low amounts (average, 262 mg/day).

A Possible Gallstone Prevention Prescription:

- Animal studies showed that a cholesterol-free diet deficient in vitamin E can lead to cholesterol gallstones.
- Moreover, when animals were given a high-fat diet along with vitamin E, they did not develop gallstones.
- Therefore, supplementation with vitamin E may possibly help to prevent gallstones.
Choleretic Herbs

- A good option for patients with small stones and mild possible symptoms
- Choleretic herbs can stimulate bile production, flow, and solubility
  - Milk Thistle (Silybum marianum)
  - Dandelion (Taraxacum officinale)
  - Turmeric (Curcuma longa)

Essential Oils

- Monoterpenes are a class of molecules found in the essential oils of many plants
- These compounds have choleretic properties and inhibit formation of cholesterol crystals
- A combination consisting of menthol and pinene is effective for stone dissolution and are found in Peppermint Oil

Exercise

- Studies have also shown that exercise can increase gallbladder motility
- Fortunately, even modest amounts of physical activity have a positive effect
- An observational study of more than 2000 people found that just 2 hours of activity a week reduced the risk by 40%
Olive Oil or Gallbladder Flush

- A commonly used method for gallstone passage
- Several versions exist, including combinations of olive oil, lemon juice, and apple juice
- Proponents claim that it causes the passage of gallstones yet when chemically analyzed, they turn out to be saponified complexes of olive oil, minerals, and lemon juice

With This New Knowledge, How Can I Help Others with Possible Gallstone Prevention

- I can stress the importance of lifestyle changes, in regards to exercise and diet, with a particular emphasis on metabolic disorders
- And I can recommend the following supplementation:
  - Citrus Bioflav – 1 to 2 per day
  - Vitamin E: 400 ius – 1 per day
  - Magnesium Comp: 300 mg daily (3 capsules)
  - Omega-3 EPA: 2 capsules daily

With This New Knowledge, How Can I Help Others Dissolve Gallstones?

- First, I can stress the importance of preventing gallstones
- Then I can recommend the following supplementation:
  - Milk Thistle Combo (with Dandelion): 2 capsules per day
  - Curcumin with Black Pepper (turmeric): 2 capsules per day
  - Peppermint Oil: apply several drops over the liver twice daily after first applying a carrier lotion or oil
References

- University of Wisconsin Health: http://www.uwhealth.org/urology/kidney-stone-treatments-nutrition/11240
- University of California Irvine Health: http://www.ucirvinehealth.org/medical-services/urology/kidney-stones/about/
- University of Chicago Medicine: http://www.uchospitals.edu/specialties/kidney-stone/
- National Center for Complementary and Alternative Medicine, National Institutes of Health: http://nccam.nih.gov
- National Digestive Diseases Information Clearinghouse, National Institutes of Health: http://digestive.niddk.nih.gov
- American Gastroenterological Association: www.gastro.org

Question for you!
One Final Step - Please Rate This Presentation

On a scale of 1 to 5, with 5 being "strongly agree" and 1 being "strongly disagree," please answer the following question:

"I acquired new knowledge to use in my business, and/or to help myself or a loved one with issues of gallstones and kidney stones."

Thank you Miss Cindy for your excellent Presentation!!

Folks, please stay tuned for live Q & A