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Clinical Nutrition

Spring 2008

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Pathophysiology

Diverticulosis is the result of pouches, known as diverticula, which have built up in the colon overtime and start to protrude outward. Diverticulosis is due to long term constipation and a very low consumption of fiber in the diet. Symptoms of diverticulosis can go unnoticed in patients. If symptoms do occur they can consists of abdominal pains, such as cramps, bloating and constipation. It estimated that at least 10% of Americans whom are over the age of 40 develop diverticulosis, due to the lack of fiber in their diet. (NDDIC, 2006). From 1983-1987, there were approximately 2 million cases reported of Diverticulosis in the United States; 300,000 new cases in 1987. (NDDIC, 2006)

Diverticulitis occurs when symptoms of diverticulosis worsen. The pouches in the colon become inflamed or infected. Pain in the lower left abdominal is almost always experienced along with fever, chills, nausea, vomiting, cramping and constipation. These symptoms can lead to bleeding, tears, or blockages in the colon if left unnoticed. Diverticulitis is most common in the western diets, where fiber intake is exceptionally low. (NDDIC, 2006).

Mr. Gonzalez was experiencing abdominal pain, particularly in his lower left quadrant, along with diarrhea. The physician concluded he had divertiulitis and put Mr. Gonzalez on ampicillin and a low-fiber diet. Two weeks later, he continued experiencing LLQ abdominal pain and then constipation followed by diarrhea. After a night of eating popcorn, Mr. Gonzalez passed bright red blood and was immediately admitted into the hospital. He underwent a colostomy; getting his sigmoid colon removed as well as part of his descending colon.

Biochemical Measurements

Test	Result	Normal	Test	Result	Normal
Hgb	11g/dl	14-18g/dl	BUN	12mg/dl	
Hct	33%	42%-52%	Creat	0.9mg/dl	
K+	3.4 mEq/L		Cl ⁻	97mEq/L	
Na+	133mEq/L	135-145 mEq/L	WBC	13 X 10 ³ /mm ³	5,000-10,000/mm ³

He has low hemoglobin and hematocrit levels due to the loss of blood from rectal bleeding. His losses of electrolytes are due to excessive diarrhea. His white blood cell count is high because his body knows he has an infection. ((Escott-Stump, Mahan 2008).

Anthropometric Measurements

Height: 5'7

Weight: 208#

IBW: 106# for first 5' of height, plus 6# per inch over five feet

$$106 + 7(6) = 148 \text{ +/- } 10\% (133\#-153\#)$$

$$\% \text{IBW: Actual (present) weight} \times 100 = 208/148 \times 100 = 141\%$$

UBW

$$\text{BMI} = \text{wt. (lbs.)} / \text{ht. (in}^2\text{)} \times 703 = 208/67^2 \times 703 = 32.6$$

Mr. Gonzalez's Ideal Body Weight range is 133#-153#. His current weight is 208#, putting him at an IBW % of 141, classifying him as obese. His body mass index of 32.6 also puts him in Class I Obesity.

His present weight is excessive and he is considered obese.

Drug Nutrient Interactions

Mr. Gonzalez is currently taking Tenex and Ampicin as directed by his physician. Tenex is used to treat high blood pressure. It decreases your heart rate and allows your blood vessels to relax, resulting in a more constant blood flow throughout your body.

When taking this medication Mr. Gonzalez should follow a low-sodium diet. When taking Tenex, Mr. Gonzalez should contact his physician if he experiences any vomiting, upset stomach, dry mouth, or constipation. (American Society of Health-System Pharmacists, 2007).

Ampicin was prescribed due to his diarrhea. Ampicin is a penicillin like antibiotic, used to treat certain infections caused by bacteria. This particular medication should be taken one hour before his meals or two hours after. This medication can cause upset stomach, vomiting and diarrhea; if Mr. Gonzalez experiences any of this, his physician should be notified. (American Society of Health-System Pharmacists, 2007).

Medical Nutritional Therapy Recommendations

Increasing the amount of fiber in the diet is recommended for someone who has diverticulosis. Food sources such as, apples, pears, brown rice and baked beans all contain adequate amounts of fiber. Foods like popcorn, nuts, sesame seeds, sunflower seeds and pumpkin seeds should be avoided. (NDDIC, 2006).

In the case of diverticulitis, where the condition is worsened, the main objective is to clear up the infection. A patient will be prescribed an antibiotic and in most cases be put on a liquid diet. (NDDIC, 2006).

Immediately following Mr. Gonzalez's surgery, he should be put on NPO, then progress to a liquid diet, followed by a low residue diet. When he is in recovery he can follow a regular diet as tolerated, but avoid the consumption of coarse foods, which can be irritating to the lining of the colon. (Escott-Stump, Mahan 2008).

Due to Mr. Gonzalez's family history, it is highly recommended that he changes his lifestyle habits. Both his brother and father have died from Myocardial Infarctions, so

the chance of him developing Coronary Heart Disease is not unlikely. Mr. Gonzalez should limit his saturated and Trans fat intake and also try to increase his activity level. He is overweight and considered obese, so by incorporating healthy habits into his life, can help him lose weight and decrease his risk of other diseases.

References

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