DYSPEPSIA / PEPTIC ULCER DISEASE / HELICOBACTER PYLORI

HI, DOC. I HAVE HAD A LONG HISTORY OF STOMACH PROBLEMS. I WOULD GET THIS BURNING PAIN IN MY STOMACH. I WOULD TAKE SOME ANTACIDS AND IT WOULD FEEL BETTER. ABOUT SIX MONTHS AGO, I HURT MY BACK AND THE DOCTOR GAVE ME SOME ARTHRITIS PILLS. THIS REALLY UPSET MY STOMACH. I WAS EXPERIENCING A TERRIBLE BURNING PAIN IN THE TOP OF MY BELLY JUST BELOW THE RIBS. MY DOCTOR GAVE ME SOME MEDICATION AND I GOT BETTER. HOWEVER IN THE LAST SEVERAL MONTHS I AM AGAIN HAVING PROBLEMS IN SPITE OF TAKING THE STOMACH MEDICATION. WHAT IS GOING ON?

Whenever a doctor sees a patient with upper abdominal pain there are several possibilities to consider.

DIFFERENTIAL CAUSES FOR UPPER ABDOMINAL PAIN:

*PEPTIC ULCER DISEASE

*FUNCTIONAL DYSPEPSIA: This is upper abdominal pain with no obvious organic cause identified.

*MEDICATION GASTROPATHY: Individuals can be sensitive to medication. These drugs can also cause gastrointestinal inflammation.

*STRESS

*BILIARY TRACT, PANCREATIC, INTESTINAL PROBLEMS

WHEN SHOULD I GO AND SEE MY DOCTOR ABOUT PAIN?

*New onset unexplained persistent upper abdominal pain
*Associated poor appetite
*Associated weight loss
*Vomiting of food or blood
*Passing black stools
I HAVE ALWAYS WONDERED WHETHER I COULD HAVE A STOMACH ULCER. WHAT EXACTLY IS THAT?

An ulcer is defined as a break in the lining of the (GI) gastrointestinal tract. The break can occur from stomach acid and other digestive enzymes. Ulcers can occur in the esophagus or food pipe, stomach and duodenum. The duodenum is the part of the GI tract that is just beyond the stomach.

WHAT TYPE OF SYMPTOMS DOES SOMEONE HAVE WHEN THEY HAVE AN ULCER?

Classically, the individual will present with a burning discomfort in the centre of the abdomen just under where the ribs meet. The discomfort can go into the back. Classically a stomach ulcer is worse when one eats and a duodenal ulcer is better when one eats. At times, it can wake one up from sleep. Sometimes, there can be some associated poor appetite, weight loss, nausea, or vomiting.

CAN THERE BE ANY COMPLICATIONS FROM AN ULCER?

*BLEED: Ulcers can bleed. At that time, one may vomit up red blood or black coffee ground-like material. If the blood passes out through the bowel, one commonly may have black bowel movements. If there is a lot of bleeding both black and red stool may be passed. If one has these signs one should go to the emergency room at the hospital right away. Be aware that iron supplements and Pepto-Bismol can also cause black stools.

*BLOCKAGE: An ulcer can cause a blockage of the stomach or duodenum. This may be due to acute swelling from the inflamed ulcer. With long standing ulcers there can be healing with scarring that leads to the blockage. Patients with obstruction may have problems with filling up quickly when eating, nausea, and vomiting.

*PERFORATION: Rarely ulcers may create a hole in the lining of the stomach or duodenum and result in a perforation. The patient may present with a sudden onset of severe abdominal pain.

CAN ULCERS LEAD TO CANCER?

Ulcers do not lead to cancer. However rarely a cancer can present as a stomach ulcer. Helicobacter pylori can be a contributing factor to stomach cancer formation and eradication of the bacteria may decrease the small risk of getting a cancer.

WHAT CAUSES ULCERS?

Ulcers are generally caused by medications or infection with a bacteria.

*MEDICATIONS: Antiplatelet drugs such as Aspirin or Plavix can cause ulcers. Even low dose aspirin or coated aspirin can be a problem. Nonsteroidal anti-inflammatory drugs
that are used to treat arthritis can cause ulcers. Some common anti-inflammatory drugs are Ibuprofen (Advil), Naproxen (Aleve and Naprosyn), Indomethacin (Indocid), Diclofenac and Misoprostol (Arthrotec) and Celecoxib (Celebrex).

*HELICOBACTER PYLORI: Ulcers can also be caused by a stomach infection with a bacteria called Helicobacter pylori. Individuals who have this bacteria may have a 10% risk of developing an ulcer. It is also a small risk factor for causing stomach cancer. It can contribute to upper abdominal pain when no other explanation is obvious. However, the majority of people who have this bacteria have no symptoms and don’t get ulcers or cancers. It does not cause problems with gas, bloating, heartburn or bowel trouble. This bacteria is more likely to occur in third world countries, institutionalized people or individuals from a lower socioeconomic group. The incidence of helicobacter pylori is decreasing in North America.

*SMOKING: Smoking is also a cause of ulcer formation and can lead to a higher risk of ulcer complications.

*IDIOPATHIC: This means that there is no apparent cause. Historically it was felt that STRESS was a cause of ulcers and perhaps this may be playing a role in patients who have an ulcer who are not taking ulcer forming drugs or who have an infection with helicobacter pylori.

CAN I SPREAD THE BACTERIA TO MY FAMILY?

The risk of transmitting this bacteria to family members is small and there are no specific precautions that need to be taken. However it might be transmitted in the vomit of an infected person and so it makes good sense to use proper hand washing.

HOW CAN YOU TELL IF I HAVE THIS BACTERIA?

*BREATH TEST: The best noninvasive way to make the diagnosis of an active infection is with a breath test. This test is performed at a lab. You need to be off antibiotics and Pepto-Bismol for four weeks and medicines that decrease acid production for ideally 1-2 weeks prior to this test. You will be asked to swallow a solution and then your breath will be collected over the next hour or so to determine if the bug is there.

*GASTROSCOPY: The other way to determine if the bacteria is present is at the time of a scope, called a gastroscopy, when biopsies can be obtained from the stomach lining and examined for the presence of the bacteria.

HOW DO YOU GET RID OF THE BACTERIA?

There are various antibiotic regimens with proton pump inhibitors that suppress acid production that have been used with great success in eliminating the bacteria. In order to try and optimize eradication of the bacteria it is important to take all the medications faithfully as prescribed.
DO ULCERS COME BACK?

If an ulcer is secondary to infection with Helicobacter Pylori eradication of the bacteria can cure the ulcer and prevent a recurrence in almost all patients. Taking an ulcer medication without treating the bacteria can heal the ulcer but recurrences can occur. If an ulcer is caused by pills then stopping the medication can prevent ulcer recurrences. However there is a group of patients who may have ulcers unrelated to Helicobacter Pylori or drugs and these ulcers may recur spontaneously.

IS SURGERY NECESSARY FOR ULCER DISEASE?

The need for surgery for ulcers has declined significantly with the advent of very effective medical therapy. Surgery is usually indicated for ulcers that present with complications such as a bleeding ulcer that can’t be stopped using special techniques at a gastroscopy or by a radiologist. When there is obstruction or perforation surgery may also be needed. Rarely there are patients who may fail medical therapy and continue to have a symptomatic ulcer requiring surgery.

WHY DID MY PAIN GET WORSE SIX MONTHS AGO WHEN I STARTED TO TAKE MEDICATIONS FOR MY BACK INJURY?

As we mentioned before, there are certain medications that can be very irritating to the stomach and can cause ulcers. This consists of Aspirin and anti-inflammatory drugs. Patients who take 3-4 grams of acetaminophen (Tylenol) on a consistent daily basis may have an increased risk of gastrointestinal upset. Codeine as a pain killer does not cause ulcers. Drug induced gastrointestinal problems are common.

I GOT BETTER WHEN I WENT ON THE MEDICINE FOR MY STOMACH. HOWEVER, RECENTLY, I AM AGAIN EXPERIENCING SOME STOMACH DISCOMFORT.

Can you tell me a bit more about your present pain?

IT IS A SHARP PAIN THAT SEEMS TO BE THERE ALL THE TIME. IT IS NOT REALLY WORSE OR BETTER WHETHER I AM EATING OR NOT EATING. I SEEM TO GET TIGHTNESS IN MY STOMACH AS IF IT WAS IN A KNOT.

Has there been anything different that has happened to you in the last little while, such as new medication, change in diet, surgery, or stress?

NOW THAT YOU MENTION IT, RECENTLY WE GOT A NEW BOSS AT WORK AND HE HAS BEEN SO DIFFICULT TO WORK WITH. IT IS INTERESTING THAT MY PAIN SEEMS TO HAVE STARTED ABOUT THE TIME HE CAME. DO YOU THINK THERE COULD BE A CONNECTION?

We do recognize that there can be a connection between the mind and body. Stress can lead to physical symptoms, such as headaches, sleep disorder, chest pain, abdominal pain, and an irregular bowel pattern. Your current pain that bears no relationship to
meal ingestion, is not improved with the ulcer medication and is associated with stress suggests that your recent pain may be a stress-induced discomfort. This may improve with stress management techniques.

**WHAT IS THE BEST APPROACH TO DEAL WITH MY PAIN?**

Dyspepsia is defined as a pain or discomfort centered in the upper abdomen. Patients who present with dyspepsia who have not had any testing are called UNINVESTIGATED DYSPEPSIA. We know that Helicobacter Pylori is the commonest cause of ulcers in the absence of certain medications and eradicating the bacteria can cure ulcers. Eradicating the bacteria in the setting of dyspepsia even when an ulcer is not identified can also be helpful. Gastric cancer is rare before age 55.

1) If a patient is taking a (NSAID) NONSTEROIDAL ANTIINFLAMMATORY DRUG initially discontinue the medication and observe the response. If the NSAID cannot be stopped then a medication that decreases acid production called a proton pump inhibitor should be given to see if the patient’s symptoms improve with this.

2) **TEST AND TREAT FOR HELICOBACTER PYLORI:**

   In patients who present with dyspepsia, who are not taking ulcer forming drugs such as non-steroidal anti-inflammatory medications, do not have reflux symptoms that is a burning sensation in the chest region, do not have alarm features such as poor appetite, weight loss, vomiting, difficulty swallowing and black stools and has the potential for a HIGHER risk of infection for Helicobacter Pylori (coming from a third world country, institutionalized patient and lower socioeconomic status) the initial approach is to test for Helicobacter Pylori and eradicate if the bacteria is found.

   If the patient remains symptomatic and Helicobacter Pylori eradication is confirmed then the patient can be given a therapeutic trial with a drug that decreases acid production called a proton pump inhibitor.

   If the initial testing for Helicobacter Pylori is negative then the patient should be treated with a trial of a proton pump inhibitor.

3) **TRIAL WITH A PROTON PUMP INHIBITOR:**

   In patients who present with dyspepsia, who are not taking ulcer forming drugs such as non-steroidal anti-inflammatory medications, do not have reflux symptoms that is a burning sensation in the chest region, do not have alarm features such as poor appetite, weight loss, vomiting, difficulty swallowing and black stools and has a LOWER risk of infection for Helicobacter Pylori (coming from a developed country and from a higher socioeconomic status) the initial approach is an empirical trial with a PROTON PUMP INHIBITOR.

   *If the patient remains symptomatic in spite of a PPI then test for Helicobacter Pylori.
WHAT IS THE COMMONEST CAUSE FOR ONGOING PAIN INSPITE OF TREATMENT AND NORMAL TESTS?

In the absence of worrisome symptoms such as weight loss, poor appetite, vomiting, passing black stools or any abnormality demonstrated at a gastroscopy or x-ray the commonest cause of ongoing upper abdominal pain in spite of medical treatment is FUNCTIONAL DYSPEPSIA.

FUNCTIONAL DYSPEPSIA may be secondary to:

*DECREASED GASTRIC ACCOMODATION:
In response to food entering the stomach the stomach normally relaxes to accommodate or accept it. In functional dyspepsia there may be failure to have adequate stomach relaxation in response to food.

*INCREASED VISCERAL HYPERSENSITIVITY:
There may be a change in the way normal or painful stimuli are felt by the brain. Research studies have demonstrated that patients with functional dyspepsia will feel acid, nonacid fluid and stomach contractions or squeezes to a greater degree than an individual without functional dyspepsia. Our brains filter all the stimuli that it receives. Brains of patients with functional dyspepsia may not filter or screen as well the incoming stimuli. It may feel a squeeze or acid in the stomach at a lower level than another individual without functional dyspepsia.

*DECREASED STOMACH EMPTYING:
There may be some altered motility or how the stomach squeezes. The stomach may have decreased emptying of food contents.

Patients with Functional Dyspepsia fall into two groups.

*EPIGASTRIC PAIN SYNDROME:
These patients have problems with a predominant upper abdominal pain.

*POSTPRANDIAL DISTRESS SYNDROME:
This group of patients after eating may complain of an upper abdominal discomfort, feeling full with smaller amounts of food than normal, bloating, nausea and vomiting.

WHAT CAN CAUSE DYSPEPSIA:
There are several factors that can cause abdominal pain. People can experience a significant illness with vomiting and diarrhea. This can occur with food poisoning or from an infection. The bug is quickly cleared but the infection can change the way in which the stomach functions. After this infection one can experience pain, nausea, vomiting and feeling full quickly when eating. This can last a long time. Stomach symptoms can follow surgery for heartburn, ulcer surgery or taking the gallbladder out. Any medication can lead to stomach symptoms. It is always important to ask “Was there anything different that went on when my problem started?”
DOES STRESS PLAY A ROLE?

In my experience STRESS plays a tremendously big role in causing the upper abdominal pain of Functional Dyspepsia! It is always important to ask yourself “When the pain started was there any significant major stressful event that occurred?” The stress of family, work, health and financial concerns are major factors that can be reflected physically. Patients may also have associated stressful symptoms of headaches, fatigue and a sleep problem.

To learn helpful effective relaxation techniques in dealing with stress please go to the website: www.thebreathproject.org

ARE THERE ANY LAB TESTS THAT WE NEED TO DO TO BE SURE WHAT IS GOING ON?

Yes, there are certain tests that we can do to try and figure this out. Some patients may require a blood test, such as hemoglobin that tells us about the level of the blood count to be sure that there has been no bleeding. Some patients may require liver or pancreatic blood tests to exclude a problem in the liver, gallbladder or pancreas. If we want to check for the bacteria Helicobacter Pylori, one can arrange for the breath test.

WHAT ARE THE WAYS TO INVESTIGATE FOR AN ULCER?

There are also two ways to examine the upper gastrointestinal tract.

*UPPER GI SERIES: An upper GI series is a procedure where one goes to an x-ray facility and is asked to drink a liquid barium solution. X-rays are then taken of the esophagus or food pipe, stomach and duodenum. There is no sedation for this procedure. X-rays are a poor way to diagnose an ulcer because they are inaccurate and may miss an ulcer in 15-20% of cases. X-rays should not be performed if one is pregnant. An x-ray also does not allow one to take biopsies or conduct any therapeutic maneuvers.

*GASTROSCOPY: A gastroscopy is the preferred way to evaluate the upper gastrointestinal tract that includes the esophagus, stomach and duodenum. A gastroscopy is a test where one goes to the hospital or outpatient facility. There is no eating or drinking from midnight before the test. The patient may receive medication thru an intravenous just prior to the test. The majority of patients may sleep thru the test and not remember having the procedure. Some doctors may spray the throat with a solution that numbs this area. The scope is quite thin and is the size of a finger. Patients lie on their left side on a stretcher. They are then asked to swallow the scope which goes down the throat and into the stomach. A scope is a thin flexible tube that has a video camera on the end. One can take biopsies thru the scope. A small instrument is placed thru the scope and bites of the lining can be taken. One does not feel the biopsies as they are taken. The scope goes down one’s food pipe and not the air pipe. Therefore, there is no problem in breathing. Having a significant gag reflux is not a problem in passing the scope. Air is injected thru the scope to distend the stomach so that one can see. The test may take, as a rule, five to ten minutes.
*COMPLICATIONS OF A GASTROSCOPY: Very rarely, there can be complications, such as bleeding and needing a blood transfusion, making a hole and needing surgery, irritation at the vein where the drugs were injected, sore throat, infections, reactions to the medications, or heart and lung issues more likely in people who may have had a preexisting medical problem.

One should not drive for 24 hours after the test.

In the setting of a bleeding ulcer certain therapeutic maneuvers can be performed thru the scope to try and stop the bleeding. Ulcers can be injected with certain solutions, metal clips can be placed on the ulcer or heat can be applied to control the bleeding. The patient stays in the recovery room for approximately one hour if sedated and then is discharged.

One’s doctor will decide about what is the most appropriate test for a patient depending upon the circumstances.

WHAT PATIENTS WITH DYSPEPSIA SHOULD HAVE A GASTROSCOPY?

*Associated poor appetite
*Associated weight loss
*Vomiting food or blood
*Passing black bowel movements
*Patients over 55 who present with new onset dyspepsia with no obvious precipitating factor such as medication or stress
*Patients with ongoing SIGNIFICANT dyspepsia in spite of medication trial or eradication of helicobacter pylori.

IS THERE ANYTHING THAT I CAN DO THAT MIGHT HELP THIS PROBLEM?

*DIET: There is not anything specific within the diet that leads to ulcer healing. Although there is no evidence that caffeine and alcohol cause ulcers they are gastric irritants and moderation in their use may be helpful. It is always wise to follow a healthy diet and avoid processed and fast foods.

*SMOKING: We do know that smoking can lead to ulcers and should absolutely be avoided.

*MEDICATIONS: If one has had a medication induced ulcer before, it is important if possible to avoid ASA, Plavix and nonsteroidal anti-inflammatory drugs. However if one needs to take these medications in the setting of a previous ulcer then one should also take a medication called a proton pump inhibitor to try and prevent a drug induced ulcer.

*STRESS: Although we have no objective evidence that stress causes ulcers I certainly have seen patients who have developed problems with an ulcer when they have developed increased stress. Stress can be expressed physically and any attempt at decreasing stress will help one feel better.
WHAT MEDICINES CAN WE USE?

*ANTACIDS: Initially, antacids were used to treat ulcer disease. They work by neutralizing acid that is present in the stomach. Some examples are Maalox, Mylanta and Amphojel. Antacids are of value for patients who have intermittent symptoms that require quick relief. However to treat an ulcer frequent dosing is necessary and more effective medications are now present.

*HISTAMINE RECEPTOR ANTAGONISTS: The next class of drugs that came along was called H$_2$ receptor antagonists. They work by blocking histamine that stimulates acid secretion in the stomach. These include drugs such as cimetidine (Tagamet), ranitidine (Zantac), nizatidine (Axid) and famotidine (Pepcid). These are prescriptions drugs but some are now available as over the counter medications that do not requires a doctor’s prescription.

*PROTON PUMP INHIBITORS: However, today, our most effective medications for lowering acid and treating ulcer disease is a class of drugs called proton pump inhibitors. They work by blocking proton pumps that secrete acid in the stomach and block acid the strongest. These include omeprazole (Losec), esomeprazole (Nexium), pantoprazole (Pantoloc,Tecta), lansoprazole (Prevacid), rabeprazole (Pariet) and dexlansoprazole (Dexilant). The acid suppression is not complete and there is always some amount of acid present in the stomach. It is best to take the proton pump inhibitors before food.

ARE THESE MEDICATIONS SAFE?

The proton pump inhibitors have been used for over 30 years and have an excellent safety profile. There are some individuals who may experience problems with headache, skin rash, diarrhea, abnormal liver function studies, low Vitamin B12 and low magnesium levels but these side effects are rare. Recently, there has been some evidence that patients on long-term therapy may have an increased hip fracture rate. However this has not been confirmed. Rarely community acquired pneumonia and infection with Clostridium Difficile that can cause diarrhea can be secondary to PPI’s. Perhaps patients on higher dose therapy, ie twice a day dosing and for longer periods of time potentially may have a greater risk of side effects.

If a PPI is necessary the benefits outweigh any potential risk. It is OK to take these medications long term. However one should always try to take the lowest dose that is necessary. These medications can be taken on an as needed basis. These treatment decisions can be discussed with your doctor.

I hope this information has been useful for you.

Dr. Phil Blustein