



PIC QUESTION OF THE WEEK: 2/06/06

Q: What are the therapeutic options for the management of achalasia?

A: Gastrointestinal motility disorders are characterized by altered peristalsis of organs of the digestive system and decreased transit of their contents. Achalasia is a specific motility disorder of the esophagus resulting from reduced peristalsis in the distal two-thirds of the esophagus and increased tone of the lower esophageal sphincter (LES). Both of these factors contribute to reduced entry of liquid and food into the stomach. The LES is a circular band of muscle located at the junction of the esophagus and stomach that prevents food from being regurgitated. The LES is normally relaxed while swallowing; however, in patients with achalasia, the LES fails to relax and creates a barrier for the passage of food and liquid. Although no definitive cause has been identified, patients with achalasia appear to have a relative denervation of the esophagus. One of their chief complaints is the gradual onset of dysphagia (difficulty in swallowing) for solid foods and liquids. Other symptoms include chest pain, heartburn, a sensation of fullness or a lump in the throat, hiccups, and weight loss. Symptoms may persist for months to years before patients seek medical attention. Achalasia affects approximately 2,000 people in the U.S. annually and is usually diagnosed in adults; however, the disorder has occurred in children as well. Barium swallow performed under fluoroscopy is one of the major tools for the diagnosis of achalasia. Manometry (measurement of pressure) is also routinely used to confirm the diagnosis. Care must be taken to distinguish achalasia from other motility disorders, especially diffuse esophageal spasm and scleroderma esophagus with peptic stricture. Endoscopy is routinely used to rule out secondary causes, particularly gastric carcinoma. Balloon dilatation reduces LES pressure and may be useful in nearly 85% of patients. Complications of this procedure include perforation and bleeding. Heller's extramucosal myotomy of the LES (circular muscle layer is incised) is considered the procedure of choice. Both of the procedures (myotomy more than balloon) can result in esophagitis and stricture. Patients with achalasia have an increased risk of esophageal cancer. Symptomatic treatment of achalasia has included nitrates and calcium channel blockers, both of which relax esophageal smooth muscle. Nitrates have been administered sublingually at meal time; however, their use is often associated with headache and postural hypotension. Nifedipine in doses of 10 – 30 mg three times daily is considered the calcium channel blocker of choice for esophageal spasm; however verapamil and diltiazem have also been used for this disorder. The endoscopic intra-sphincteric injection of botulinum toxin is considered by many as the drug treatment of choice for achalasia. Botulinum toxin blocks cholinergic excitatory effects on the sphincter and may provide symptomatic relief for several months. Repeated use of botulinum toxin may complicate future operative therapy because multiple injections can result in tissue fibrosis. Drugs have a limited, but potentially useful role in the management of achalasia.

References:

- Richards WO, Torquati A, Lutfi R. The current treatment of achalasia. *Adv Surg* 2005;39:285-314.
- Zaninotto G, Annese V, Costantini M, et al. Randomized controlled trial of botulinum toxin versus laparoscopic Heller myotomy for esophageal achalasia. *Ann Surg* 2004;239:364-70.

Elizabeth A. Search, Pharmacy Clerkship Student Autumn S. Bryan, Pharmacy Clerkship Student

The PIC Question of the Week is a publication of the Pharmaceutical Information Center, Mylan School of Pharmacy, Duquesne University, Pittsburgh, PA 15221