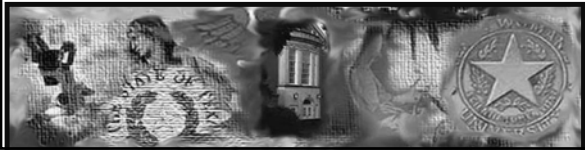


# Peptic Ulcer Disease (PUD)

Dr. Susan Chaney  
NURS 5415 – Women's Health III



## Introduction

– The purpose of this presentation is to provide the learner with essential information regarding Peptic Ulcer Disease in order to:

- Understand Pathophysiology
- Identify Risk Factors
- Recognize Presenting Signs & Symptoms
- Identify Key Elements of Physical Examination
- Consider Appropriate Differential Diagnoses
- Evaluate Use of Diagnostic Tests
- Construct a Treatment Plan

2

## DYSPEPSIA

- Abdominal pain or discomfort often associated with:
  - Fullness, belching, bloating, heartburn & food intolerance
- Five Major Causes of Dyspepsia:
  - 1) Nonulcer Dyspepsia
  - 2) Peptic Ulcer Disease
  - 3) Gastroesophageal Reflux Disease
  - 4) Gastritis
  - 5) Cholelithiasis

3

## PUD OVERVIEW

- About 20 million Americans have at least once ulcer during lifetime
- More in men/boys > women/girls
- About 80% are duodenal; 20% are gastric
- About 500,000 new cases per year; 4 million reoccurrence
- Common ages 12-18 years in girls

4

## PEPTIC ULCER

- Definition:
  - An excoriated area of the mucosa caused by the digestive action of gastric juices.
- Causes of Peptic Ulcer:
  - 1) Excess secretion of acid and pepsin by the gastric mucosa.
  - 2) Decreased ability of the gastroduodenal mucosal barrier to protect against the digestive properties of the acid pepsin complex.

5

## CAUSES (CONTINUED)

- In the majority of cases, infection with *H. pylori* produces damage to the mucosa
- Second most common cause is damage to the mucosa caused by use of NSAIDs (direct effect; prostaglandin synthesis inhibited systemically)
- Small minority remain idiopathic

6

## Helicobacter Pylori

- H. Pylori: Spiral gram negative bacillus with multiple flagella.
  - Discovered in 1983 and is a major cause of morbidity & mortality.
  - Resides in the mucous coating the epithelial cells but does not invade the tissues
  - Approximately 40% of people in developed countries are infected.

7

## H. Pylori (CONTINUED)

- Is a slow bacterial infection commonly associated with chronic gastritis; causally related to ulcer development
- Most persons infected with H. pylori do not develop ulcers; estimate 1/6 do
- Colonization increased with age; increased incidence in African Americans & Hispanics

8

## RESEARCH FINDINGS

- Utilization of antimicrobial therapy in the treatment of H. Pylori.
- Variable response in 15-30% of patients
- Cost Effectiveness: unknown; empiric antibiotic therapy without H pylori is discouraged
- Increased risk of gastric cancer in persons infected with H. Pylori

9

## RISK FACTORS

- Genetic:
  - 3 times more common in 1st degree relatives
  - Increased frequency in blood group O
- Cigarette Smoking:
  - Increases incidence
  - Decreases effectiveness of tx/therapy
  - Increases mortality

10

## RISK FACTORS (CONTD.)

### Psychological:

Chronic anxiety  
High stress levels

11

## COEXISTING DISEASES

- Chronic renal failure
- Alcoholic cirrhosis
- Renal transplant
- Hyperparathyroidism
- COPD

12

## PATHOPHYSIOLOGY & CHARACTERISTICS

- GASTRIC
  - Distal to the junction of the antral mucosa
  - Serum gastrin levels increased
  - Decreased rate of gastric emptying
  - Heal slowly
- DUODENAL
  - 1st portion of the duodenum
  - Serum gastrin levels normal
  - Increased rate of gastric emptying
  - Spontaneously heal

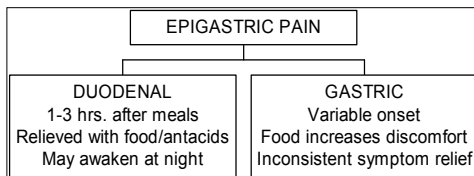
13

## CHARACTERISTICS (continued)

- Gastric
  - 2-4% harbor malignancy
  - NSAID gastric rather than duodenal
- Duodenal
  - More common than gastric
  - Rarely harbor malignancy
  - H Pylori 95% of cases

14

## CLINICAL PRESENTATION



15

## HISTORY/PHYSICAL EXAM

- HISTORY
  - Presence of pain
  - 7 Variables
  - Past Medical History
  - Family history
  - Social history
  - Use of NSAIDs
- PHYSICAL EXAM
  - Abdominal exam
    - tenderness
    - rigidity
    - abnormal BS
    - masses
    - organomegaly
  - Rectal Exam
    - tenderness
    - masses
    - stool for occult blood

16

## DIFFERENTIAL DIAGNOSIS

- NONULCER DYSPEPSIA
- GASTROESOPHAGEAL REFLUX DISEASE
- GASTRITIS
- CHOLELITHIASIS
- NEOPLASM OF THE STOMACH
- PANCREATITIS
- DIVERTICULITIS

17

## DIAGNOSTIC TESTS

- STOOL GUAIAEC (1/3 +); HGB/HCT
- BARIUM EXAM OF UPPER GI TRACT
- ENDOSCOPY (CRITERIA):
  - Little or no response to empiric therapy within 7-10 days
  - Symptoms that persist after a 6-8 week course of therapy.
- TEST FOR H PYLORI

18

## TREATMENT

- LIFESTYLE CHANGES
- Discontinue use of NSAIDs
- Smoking cessation
- Identify and avoid foods that exacerbate pain
- Alcohol in moderate amounts and with food
- Stress management techniques

19

## PHARMACOLOGIC THERAPY

- Acid-antisecretory agents
  - H2 receptor antagonists
  - Proton pump inhibitors
- Mucosal protective agents
  - Sucralfate 1 g qid for duodenal ulcers
  - Bismuth compounds in various formulas
  - Prostaglandin analogs (misoprostol)
  - Antacids

20

## PHARMACOLOGICS (CONT.)

- Agents that heal through eradication of H pylori
  - Regimens using proton pump inhibitors
  - Regimens using bismuth compounds
- Refer to table in Tierney under treatment options for PUD

21

## Pharmacological Therapy

- H2 RECEPTOR ANTAGONIST
  - Cimetidine (Tagamet) 800mg@HS/400mgBID
  - Famotidine (Pepcid) 40mg@HS/20mgBID
  - Nizatidine (AXID) 300mg@HS/150mgBID
  - Ranitidine (Zantac) 300mg@HS/150mgBID
- ANTACIDS
  - DOSING: 7X/Day; 1 & 3 hrs after meals & HS

22

## Proton-Pump Inhibitors

- Several agents available: are expensive
- Require activation in the acidic compartments of the stimulated parietal cell; should not be given fasting or HS
- Best given 30 minutes before meals
- Prilosec 20-40 mg QD; Prevacid 15-30 mg QD; Aciphex 20 mg QD; Nexium 20-40 mg QD

23

## FOLLOW UP

- A therapeutic trial of lifestyle changes and pharmacological therapy should provide relief
- Re-evaluate client after 2 weeks
  - If symptoms improved; prescribe a full 6-8 week course.
  - Consult physician if no response to therapy.

24

## FOLLOW UP

- Therapy with PPI results in > 90% healing of duodenal ulcers in 4 weeks and 90% of gastric in 8 weeks
- Re-evaluate patient again at 8 weeks, after full course of therapy completed
- Re-evaluate with endoscopy after 8-12 weeks of therapy if initial endoscopy not done/atypia found on initial endoscopy

25

## FOLLOW UP (CONTINUED)

- A subset of patients require chronic treatment
  - H pylori negative recurrent ulcers
  - H pylori positive recurrent ulcer who failed eradication therapy
  - Those patients with recurrent ulcers despite successful eradication

26

## PUD : ELDERLY CLIENT

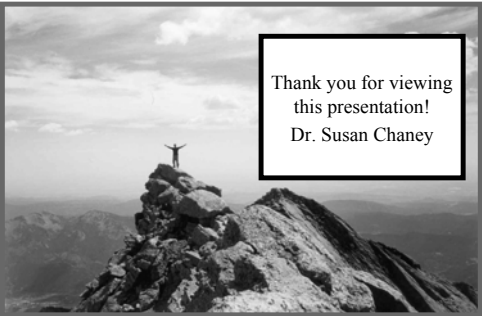
- CONSIDER:
  - COEXISTING DISEASES
  - MEDICATIONS
- MAINTENANCE THERAPY
  - HIGHER DOSES OF H2 RECEPTOR ANTAGONISTS
    - ZANTAC 600-1200 MG PER DAY
    - PRILOSEC

27

## REFERENCES

- Guay, D.R.P. & Gilberstadt, S.J. (1997). Antimicrobial Management of Helicobacter Pylori-Associated Gastrointestinal Tract Disease. Archives of Family Medicine, 6, p. 173-180.
- Hay, W.W. et al. (2001). Current Pediatric Diagnosis and Treatment. New York: Lange Medical Books/McGraw-Hill.
- Fauci, A.S. & Kasper, D.L. (1998). Harrison's Principles of Internal Medicine. (15th ed.). New York: McGraw-Hill, Inc.
- Noble, J. (Ed.). (2001). Textbook of Primary Care Medicine. (2nd ed.). St. Louis: Mosby.
- Tierney, L. et al (2002). Current Medical Diagnosis & Treatment. New York: Lange Medical Books/McGraw-Hill.
- Uphold, C.R. & Graham, M.V. (1998). Clinical Guidelines in Family practice. Gainesville FL: Barmarrae Books.

28



Thank you for viewing  
this presentation!  
Dr. Susan Chaney

29