

## Management of Dyspepsia in Elderly

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Dyspepsia is a common symptom in the elderly. It refers to various abdominal discomforts like nausea, bloating, feeling of fullness, stomach ache, loss of appetite, heartburn, and acidic splash, chronic or recurrent pain or discomfort centered in the upper abdomen. Patients with predominant or frequent (occurring more than once in a week) heartburn or acid regurgitation are considered to have gastroesophageal reflux disease (GERD). Dyspepsia is upper abdominal pain or discomfort that is episodic or persistent and often associated with belching, bloating, heartburn, nausea or vomiting.<sup>1</sup>

The condition is common in elderly and reported to occur in approximately 25 percent (range: 13 to 40 percent) of the population each year, but most affected persons do not seek medical care.<sup>2,3,4,5</sup>

Symptoms: Patient may present with symptoms like epigastric pain, burning, abdominal bloating (difficult to treat) belching and flatulence, nausea, halitosis.

Factors playing role in elderly persons for dyspepsia

- Aged-related factors: Reduced production of digestive juice like saliva, gastric juice, bile and enzymes can reduce the effectiveness of digestion.
- Chewing problems: Poorly fitted denture, dental decay or loss of tooth can lead to inadequate chewing.
- Sedentary life-style: Lack of physical activity can reduce gut motility.
- Unhealthy life style: Over-eating, irregular mealtime, smoking and alcohol.
- Anxiety: Ingestion of excessive air into the stomach due to hyper-ventilation, causing bloating.

- Medication: Certain drugs like non-steroid anti inflammatory.<sup>6</sup>

### Etiology

- **Common causes** of dyspepsia are Functional Dyspepsia (Nonulcer Dyspepsia) - 60%, Peptic Ulcer Disease- 15 to 25% ,Gastroesophageal Reflux - 5 to 15%

- **Stomach infiltrative disease**-Crohn's disease, Sarcoidosis.

- **Abdominal malignancy or mass** -Gastric cancer, Esophageal cancer, Pancreatic cancer, Hepatoma.

- **Endocrine abnormalities** - Hypercalcemia, Hyperkalemia.

- **Carbohydrate malabsorption** - Lactose Intolerance, Sorbitol intolerance, Fructose intolerance.

- **Systemic diseases** - Diabetes Mellitus, Thyroid disease, Parathyroid disease, Connective tissue diseases.

- **Intestinal Parasites** -Giardia, Strongyloides.<sup>7</sup>

- **Gastric Irritants** (risks for Peptic Ulcer Disease) -Aspirin, NSAIDs, Alcohol, Coffee and other caffeine sources, Tobacco abuse, Corticosteroids (prednisone).

- **Herbal preparations** causing Dyspepsia - Garlic, Gingko, Saw Palmetto, Feverfew, Chaste Tree Berry, White willow.

- **Medications** causing Dyspepsia Acarbose, Alendronate, Antiinflammatory medications -Aspirin, NSAIDs, COX2 Inhibitors. Cisapride, Codeine, Corticosteroids, Erythromycin, Iron, Metformin, Miglitol, Orlistat, Potassium chloride, Risedronate, Theophylline.

- **Less common causes** are Biliary tract disease, Gastroparesis, Pancreatitis, Ischemic bowel disease.

### APPROACH TO MANAGEMENT OF DYSPEPSIA

Step 1 - Consider differential diagnosis

## Differential Diagnosis of Dyspepsia <sup>8,9</sup>

Diagnostic category	Approximate prevalence*
"Functional" dyspepsia†	Up to 60 percent
Dyspepsia caused by structural or biochemical disease	
Peptic ulcer disease	15 to 25 percent
Reflux esophagitis	5 to 15 percent
Gastric or esophageal cancer	<2 percent
Biliary tract disease	Rare
Gastroparesis	Rare
Pancreatitis	Rare
Carbohydrate malabsorption (lactose, sorbitol, fructose, mannitol)	Rare
Medications	Rare
Infiltrative diseases of the stomach (Crohn's disease, sarcoidosis)	Rare
Metabolic disturbances (hypercalcemia, hyperkalemia)	Rare
Hepatoma	Rare
Ischemic bowel disease	Rare
Systemic disorders (diabetes mellitus, thyroid and parathyroid disorders, connective tissue disease)	Rare
Intestinal parasites (Giardia, Strongyloides)	Rare
Abdominal cancer, especially pancreatic cancer	Rare

All causes of dyspepsia, and drug induced causes should be considered. Most common conditions in differential diagnosis are

1. Idiopathic (functional disorder) in 60% of cases.

### 2. Peptic Ulcer Disease

Patients who present with dyspepsia should be asked about the history of ulcers, pain, relationship with meals and risk factors associated with peptic ulcers. Risk factors for ulcers include a family history of ulcers, a history of nonsteroidal anti-inflammatory drug (NSAID) use and current cigarette smoking.

### 3. Gastroesophageal Reflux disease (often comorbid)

The symptoms that define this disorder are heartburn and regurgitation. The epigastric burning sometimes radiates to the throat and worsens when a patient eats, bends down or lies flat. Esophageal spasm from gastroesophageal reflux is characterized by sharp, stabbing substernal pain. Heartburn and esophageal reflux and spasm commonly occur at night or after the consumption of a large meal.

### 4. Gastroparesis

Dysmotility-like dyspepsia, or gastroparesis, is

associated with symptoms of bloating, abdominal distention, flatulence and prominent nausea.<sup>1,10</sup> Patients with this condition tend to feel hungry but have premature satiety with resultant epigastric heaviness or fullness even after the consumption of small meals.<sup>10</sup> Gastroparesis should be suspected in a symptomatic patient who has diabetes mellitus, especially when peripheral neuropathy is present.

### 5. Irritable Bowel Syndrome

The abdominal pain associated with irritable bowel syndrome may frequently be confused with the pain of nonulcer dyspepsia.<sup>11</sup> However, the syndrome is generally associated with abnormal bowel habits and can usually be distinguished from nonulcer dyspepsia by the symptoms.<sup>12</sup>

### 6. Biliary Tract Disease

Gallstones are common and often asymptomatic. When pain occurs, it is episodic and severe, and may last for hours.<sup>13</sup> Unlike the pain associated with peptic ulcers, the pain in gall bladder disease tends to occur after eating, especially after the consumption of a large fatty meal. Patients with dyspepsia should also be

asked about the presence of dark urine, jaundice and acholic stools.<sup>13</sup>

### 7. Malignancy and Other Serious Diseases

Fortunately, malignancies are rare in patients with dyspepsia. The presence of “alarm symptoms,” such as dysphagia, unexplained weight loss (greater than 3 kg) , history of gastrointestinal bleeding or clinical signs of anemia, may help to identify patients with more serious disease.

### 8. Medication-Induced Dyspepsia

A complete medication history, including prescription and over-the-counter drugs, should always be obtained as part of the evaluation . Because dosage reduction or discontinuation of the offending agent may relieve a patient’s symptoms, and may avoid costly diagnostic studies.

The use of herbal products, home remedies and other products (e.g., vitamins, minerals and shark cartilage) sold in health food stores should be specifically addressed. Dietary supplements can be harmful. Thus, purity and quality are difficult to ensure, and a number of products contain contaminants. Harmful drug-herb interactions are also possible.

#### Step 2 - Upper Endoscopy for high risk patients

Red Flags may suggest serious underlying conditions like Gastric Cancer or Complicated Peptic Ulcer Disease

All patients over 55 years of age with new onset dyspepsia, however in patients born in region with high incidence of gastric ulcer age threshold of 45 years is appropriate.

All patients with alarm features / red flag signs like anorexia or early satiety, persistent vomiting, nausea, jaundice, palpable abdominal mass, family history of gastric ulcer -more common in non-caucasian (esp. black patients), prior peptic ulcer disease history.

Unexplained weight loss-Weight loss more than 3 kg or 6.5 pounds, Weight loss >10% of body weight.

Signs of significant gastrointestinal bleeding, anemia, rectal bleeding or melena.<sup>14</sup>

#### Step 3 - Consider empiric antisecretory therapy

**A. Timing** -Initial trial for 2-4 weeks. Longterm antisecretory use is often needed.

**B. General Measures** -Avoid gastric irritants .

**C. Antisecretory Agents** - H2 Blocker (e.g. Ranitidine150mg BD, Famotidine20 mg BD, Cimetidine 400-8—mg BD ) -Cost effective initial trial.

Switch to Proton Pump Inhibitor if not effective Proton Pump Inhibitor e.g. Omeprazole 40mg/D, Pantoprazole 40mg/D, Lansoprazole 30mg/D, Rabeprazole 20mg/D.

PPIs are highly effective agents at much higher

## Herbs Noted to Have Side Effects that May Be Confused with Dyspepsia

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Herb	Side effects
Garlic	Stomach burning, nausea
Gingko	Mild gastrointestinal disturbances
Saw palmetto	Upset stomach
Feverfew	Gastrointestinal disturbances
Chaste tree berry	Gastrointestinal disturbances
White willow	Possibly adverse reactions similar to those of salicylates

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Information from Pharmacist’s letter continuing education booklet: therapeutic use of herbs #422-000-98-079-Hot. Stockton, Calif.: Therapeutic Research Center, 1988.

cost however there is no advantage to higher Omeprazole doses.<sup>15</sup>

#### D. Adjunctive medication options

Metoclopramide 5-10 mg TDS (prokinetic agent) may offer benefit in nonulcer dyspepsia, risk of tardive dyskinesia is present.

**E. Ineffective Medications (avoid)** -Sucralfate offers no benefit in nonulcer dyspepsia, Misoprostol offers no benefit in nonulcer dyspepsia.

**Step 4 - Consider Helicobacter pylori testing** in following situations

1. Lack of relief with empiric antisecretory therapy.
2. Patients younger than 55 years with uncomplicated dyspepsia –noninvasive testing for H pylori should be done.
3. Undifferentiated dyspepsia -H. pylori treatment does not benefit without ulcer, however ulcer status unknown without endoscopy Test and treat strategy is cost effective. Endoscopic testing of H pylori is reserved for Dyspepsia with Red Flags or alarming signs.
4. Chronic gastric infection with H pylori is the cause of Dyspepsia is controversial . However prevalence of H pylori associated chronic gastritis in patients with dyspepsia without PUD is 20-50% . Treat with H. pylori if positive. Some studies have reported improvement of dyspeptic symptoms 2 months after treatment of H pylori.<sup>16,17</sup> However a meta analysis has suggested that a small number of patients(<10%) derive benefit from H pylori eradication.
5. Retest for cure if symptoms persist after treatment.

Non Invasive Testing -Urea Breath Test, fecal antigen (HpSA), IgG serologic test.

Invasive - Endoscopic Biopsy for H. pylori

#### Step 5 - Upper Endoscopy Indications

- A. Incomplete relief with above management

#### Step 6 - Alternative Therapies

- A. Selective Serotonin Reuptake Inhibitors (SSRI)

Low doses of antidepressants eg. Desipramine or nortriptyline 10-50 mg at bedtime help probably by moderating visceral afferent sensitivity, closely watching side effects.

- B. Hypnotherapy.<sup>15</sup>

#### How to prevent and relieve dyspepsia

##### 1. Maintain healthy life style

- Regular exercise and daily routines
- No smoking or quit smoking
- Limit alcohol intake and do not drink on an empty stomach.

##### 2. Healthy eating

- Eat frequent but smaller meals to avoid overloading the digestive system.
- Eat slowly and chew thoroughly.
- Select softer foods such as congee, noodles in soup, crackers in fluid or soup, fish, tofu, steamed eggs, ground meat, peeled fruit, etc.
- Use appropriate cooking methods such as braising or stewing.
- Cut food in small pieces before cooking or eating.
- Avoid drinking large amounts of fluids during mealtime to help reduce the feeling of fullness.
- Avoid fried food with high fat content.
- Avoid food and drinks with caffeine, e.g. chocolate, coffee, tea.
- Avoid wearing tight-fitting garments.
- Do not eat to the full.
- Do not lie down right after eating to prevent reflux.

##### 3. Emotional & stress management:

- Learn about normal aging to allay unnecessary anxiety;
- Practise relaxation exercise to release tension;
- Proper time management to reduce stress from time constraint;
- Increase life satisfaction by appreciating yourself, others and things around you.

##### 4. Proper use of medications

- Different causes of dyspepsia require different forms of treatment. Follow the advice of the doctor and complete the full course of treatment to reduce

the chance of relapse.

- Certain drugs like aspirin and non-steroid anti-inflammatory drugs can cause peptic ulcer and hence should not be used without appropriate medical advice to relieve joint or muscle pain.<sup>6</sup>

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