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A Study of Aetiologies of Dyspepsia

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Abstract:
Objectives*: To know the aetiologies of dyspepsia, for patients who present with uninvestigated dyspepsia to surgical OPD.*
Material and Methods*: The present study was conducted in M.K.C.G Medical College Hospital, Berhampur, in the department of Surgery during the period from September '06 to September '08. All the patients who presented with upper abdominal symptoms with or without alarm features were studied. Patients were withdrawn from all medications causing dyspepsia. Endoscopy was done in patients above 40 years of age, patients with dyspepsia more than one month, or in younger patients after treating them with empirical antisecretory therapy for one month and in whom symptoms persist.*
Inclusion criteria; Patients of either sex, with vague upper abdominal symptoms
Exclusion criteria; Pregnant or lactating women, Patients with debilitating disease, Patients with cardiac failure or disease, Patients on drug causing dyspepsia that cannot be withdrawn. After exclusion those were willing to undergo investigations (172 cases) were studied by taking detailed history, general examination and investigations (especially endoscopy).

I. Introduction

Nobody find it difficult to make a diagnosis if the patients present with dramatic symptoms, but if something as common as dyspepsia comes nobody really knows what to do, to investigate or to treat. In fact dyspepsia is one of the presentations that can cause too much confusion among physicians, let alone the patients. A good majority, at some point of time has experienced dyspepsia; still nobody was able to give a proper definition to dyspepsia. For most, dyspepsia is a symptom while for others it is a manifestation of underlying disease.

II. Background On Dyspepsia

Definition of Dyspepsia

Dyspepsia is defined as chronic or recurrent pain or discomfort centered in upper abdomen[1]. Discomfort is defined as a subjective feeling that is non-painful and can incorporate a variety of symptoms including early satiety or upper abdominal fullness[2]. Functional dyspepsia is a clinical syndrome and is diagnosed when no structural or biochemical explanation for patients' symptom is identified after appropriate investigations[3].

Epidemiology

Dyspepsia is reported by almost one-third of the population in Mumbai; significant symptoms occur in 12%. Forty percent of these subjects receive treatment and only a small number undergo endoscopy or ultrasonography[4].

Causes of Organic Dyspepsia.

Peptic Ulcer Disease: Most peptic ulcers are associated with dyspepsia but most patients with dyspepsia do not have peptic ulcer disease. 10%-25%[5] of patients presenting with dyspepsia have peptic ulcer[1]. The frequency of peptic ulcer is increased in patients who are older than age 40, have

helicobacter pylori infection, use an NSAID, have dyspepsia at night, experience relief of pain with food or antacids, have a history of peptic ulcer disease, are male or smoke.

Gastric Or Oesophageal Malignancy: Gastric or esophageal malignancy is present in less than 1% to 3% of patients with dyspepsia referred for endoscopy[5,6,7]. The majority of cancers are advanced (like Stage – III or higher) at the time of presentation and a fewer than 5% occur in patient younger than 45 years of age[8.]

Gastro Oesophageal Reflux Disease: Estimating the prevalence of GERD in patients presenting with dyspepsia is difficult. More than one third of patients with dyspepsia also have heart burn[10-11]. A significant proportion of patients with pain predominant dyspepsia have endoscopic reflux esophagitis[9].

Food Intolerance: The possible contribution of food and dietary habits to the induction and/or exacerbation of dyspeptic symptoms represent relatively new area-despite frequent reports by patients that their symptoms are often related to food ingestion; this association has not been formally assessed[13.]

Heavy acute ingestion of alcohol and chronic alcohol abuse both may cause dyspepsia which is often worse in the morning in this setting. Chronic alcoholism and smoking cause chronic gastritis but it rarely cause symptoms[15]. Former and current smoking is strongly related to dyspepsia[14].

Medication: Chronic use of aspirin or other NSAIDS provoke dyspepsia[16]. Other medication that commonly cause dyspepsia include potassium supplements, iron, antibiotics especially macrolides, sulfonamides and metronidazole, digitalis, glucocorticoids, niacin gemfibrozil, narcotic, colchicine,

quinidine, estrogens and oral contraceptives, theophylline, sildenafil, orlistate, acarbose and levodopa.

Pancreatic And Biliary Tract Disorders : Gallstone dyspepsia is essentially a functional disease--a disorder of gastroduodenal motility[17]. Duodenogastric reflux exacerbated by fatty meal is a direct consequence of the disorder which may occur with or without associated gall stones. Gall stone do not cause dyspepsia despite the high prevalence of both dyspepsia and gall stone in adults[19]. Pancreatitis can be a rare cause of dyspepsia[18]

Gastroparesis: Dysmotility like dyspepsia and gastroparesis is associated with symptoms of bloating abdominal distension flatulence and prominent nausea[1]. Gastroparesis should be suspected in symptomatic patients who have diabetes mellitus, especially when peripheral neuropathy is present. Other causes are scleroderma, vagotomy, chronic intestinal pseudo obstruction, neurologic disorders or gastric resection or follow a viral illness or rarely idiopathic[1].

Irritable Bowel Syndrome: The abdominal pain associated with irritable bowel syndrome may frequently be confused with the pain of non ulcer dyspepsia. However, the syndrome is generally associated with abnormal bowel habits and can usually be distinguished from non ulcer dyspepsia by the symptoms[1].

Gastro Intestinal Disorders That Uncommonly Manifest As Dyspepsia

The parasites Giardia lamblia and Strongyloids stercoralis which reside in the upper intestinal tract may cause dyspepsia. Recurrent gastric volvulus may manifest with intermittent bouts of upper abdominal pain, bloating, belching, retching or vomiting. Small intestinal

malabsorption disorders such as tropical sprue may manifest with dyspepsia and flatulence. Gastric or small intestinal involvement with Crohn's disease may cause upper abdominal symptoms, as may infiltrative (lymphoma, amyloid, Menetrier's disease), infectious (tuberculous, syphilis, fungal) and inflammatory (sarcoidosis, lymphocytic gastritis, eosinophilic gastro enteritis)

disorders of the stomach which are diagnosed on upper endoscopy with biopsy. Chronic mesenteric or gastric ischemia may manifest with postprandial dyspepsia rather than the classic constellation of peri-umbilical abdominal pain, silophobia (fear of eating) and weight loss. Appendicitis is also attributed to cause dyspepsia[20].

Functional (Non Ulcer) Dyspepsia

From 50-70% of patients chronic dyspepsia (at least 12 weeks) do not have a significant focal or structural lesion (organic cause) identified at upper GI endoscopy although further investigation (e.g. abdominal imaging studies) may reveal other organic cause in some patients. These patients are labeled as having functional dyspepsia and are difficult to manage[21]. Functional dyspepsia is a diagnosis of exclusion.

Approach To Uninvestigated Dyspepsia

In evaluating the patients the goal is to distinguish between those with serious organic disorders (warranting early diagnostic evaluation and a definitive diagnosis) from the remainder of the patients who may be treated initially with empirical antisecretory therapy or H. pylori eradication therapy.

History and Physical Examination

A complete clinical history should be obtained and a physical examination performed in all patients with dyspepsia. The reason patient has sought medical consultation should be elicited. Symptoms and signs of systemic disorders that may cause dyspepsia such as cardiac disease, diabetes and thyroid disease should be considered. Signs such as abdominal organomegaly, mass, ascitis or positive fecal occult blood test necessitate further evaluation. Diseases presenting with dyspepsia fall into two general categories: organic and functional. Overall, most patients with dyspepsia have no underlying identifiable disease process. The diagnostic yield of organic causes is less in younger patients, and, conversely, serious organic lesions are common in elderly dyspeptic patients.

Look for alarm features: Endoscopy should be performed in all dyspeptic patients with alarm features in order to exclude gastric or esophageal malignancy[7]. Alarm features include unintended weight loss (Generally of at least 3kgs) progressive dysphagia persistent vomiting overt or occult gastrointestinal bleeding, unexplained anemia, jaundice, lymphadenopathy and a palpable abdominal mass. More than 90 – 95% of gastro esophageal cancers present with at least one alarm feature. Alarm features have a poor predictive value of malignancy because their present in 10-20% patients with dyspepsia[22].

Initial Laboratory Studies

After the age of 45-55 a complete blood count, routine electrolyte measurement, serum calcium, liver biochemical test and thyroid function test study may be considered. Other studies such as serum amylase, antibodies for Coelic sprue, stool testing for ova and parasite or Giardia antigen and pregnancy test may be considered in selected cases.

Initial Management Strategies

For patients with uncomplicated dyspepsia (that is dyspepsia in the absence of alarm features) the provider must decide among one half of three initial management strategies

1. Performing a diagnostic upper endoscopy followed by medical therapy targeted to the specific diagnosis.
2. Performing a non invasive test for H. pylori infection followed by treatment based on the results of this test (test and treat).
3. Administering empirical antisecretory therapy.

With either non invasive strategy endoscopy is reserved for patients with persistent or recurrent dyspepsia.

Other investigations

Abdominal ultrasonography and / or computed tomographic imaging are obtained in patients with suspected biliary tract disease, chronic pancreatitis or intra-abdominal malignancy. Gastric scintigraphy should be reserved for a small minority of patients with frequent or protracted vomiting, suggestive of gastric motility disorders. Ambulatory esophageal pH monitoring is useful to diagnose gastro esophageal reflux in patients with atypical symptoms. However it is more cost effective to treat such patients with an empirical trial of proton pump inhibitors.

Observation In this study a total no. of 172 cases were studied during the period of September 2006 to September 2008. Out of the 172 cases there is a male predominance of 60%

Out of the 172 cases presented with dyspepsia most common cause was functional dyspepsia followed by malignancy. But ulcers (gastric and duodenal) as a single entity were more than malignancy and constituted 22%. In males the most common pathology is gastric ulcer. While in female the most common pathology is malignancy. Functional cases are also more in females compared to males

The difference in age is statistically significant. The higher the age the more the chance of malignancy. Out of the malignancy 92% presented with alarm features. Sensitivity of alarm features to malignancy is -92%. Specificity of alarm features - 93%. Positive predictive value is 70%.

III. Discussion

The study comprised of 172 cases of patients who came to SOPD with persistent dyspepsia or who have new onset dyspepsia after the age of 40 years. The study found that out 172 cases studied 82 cases were endoscopically normal. There is 47% incidence of functional dyspepsia. As the age increases the chance of pathology also increases as that of malignancy. The patients with alarm features is also mostly in elderly age group. Though the sensitivity and specificity of alarm features in predicting malignancy is high the positive predictive value is low. But this study proves that in elderly patients with new onset dyspepsia endoscopy evaluation is necessary because it is commonly associated with a disease process and this should be the initial approach in management of these patients.

IV. Conclusion

Present study demonstrated that new onset dyspepsia, especially in elderly is associated with significant underlying disease. Most of the patients are associated with alarm features. There were also a high percentage of patients with gastro esophageal malignancy. Thus all the patients above 40 years with new onset dyspepsia should undergo an endoscopic evaluation to rule out underlying significant disease.

V. Summary

The present study title "A study of dyspepsia" was undertaken at M.K.C.G Medical College, between the periods of September 2006 to September 2008. The study comprised of 172 cases attended the surgical OPD with dyspepsia.

The most common cause turns out to be functional dyspepsia. The most common pathology identified was ulcer disease comprising of both gastric ulcer and duodenal ulcer. Gastric ulcer tends to occur more in the elderly while duodenal ulcers are most in younger age groups. The next common cause identified is malignancy. The incidence of malignancy increases with age. The maximum number of observed cases was above40 years of age. This shows the importance of early endoscopy in patients above 40yrs with dyspepsia.

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Table 1 **Diagnosis of patients with dyspepsia (endoscopy & biopsy)**

Diagnosis	**No. of cases**	**Percentage (%)**
Antral gastritis	15	9
Duodenitis	7	4
GERD	7	4
Gastric ulcer	18	11
Duodenal ulcer	18	11
Malignancy	25	15
Functional	81	47
Others	1	<1

Table 2 **No. of cases above 50 identified by endoscopy and biopsy**

Diagnosis	**No. of cases**	**Percentage (%)**
Malignancy	16	29
Antral gastritis	5	9
Gastric ulcer	10	18
Duodenal ulcer	4	8
Functional	21	38
Total	56	100