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Research Article

### DYSPEPSIA AND ITS CLINICAL PRESENTATION

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#### Abstract:

**Objective:** Nowadays, Upper gastro-intestinal motility disorders are very common. The exact numbers of victims in Pakistan are unknown so far; however, numerous cases are surfaced who are found normal on liver function test and endoscopy test. Research aim was the management of dyspepsia in the patients suffering from nausea, anorexia, vomiting, heartburn, upper abdominal pain and fullness etc.

**Design and Setting:** Our research was descriptive in nature and it was carried out in Mayo Hospital Lahore in the timeframe of August, 2016 to August, 2017.

**Material and Methods:** When emptying of the stomach is sluggish one, such disorders are said to be functional. The related symptoms can be as mentioned above. It seems as if this condition is not problematic but it can be of grave concern in some cases. From mild to severe, symptoms may differ. Questions of dyspepsia management and its assessment are not answered yet. Preliminary Diagnostic ability could be challenging one due to overlapping causes of symptoms. A distinct reason is rarely established in a number of cases. The preliminary investigation of dyspepsia related patients encompasses physical examination and a systematic history while giving particular attention to those elements implying the presence of illness. Patients having alarm symptoms i.e. weight loss, melena and anorexia etc. should be immediately given Endoscopy test. If the test is positive, a cost-effective preliminary approach to check the *Helicobacter pylori*, Management should be applicable individually. Empiric therapy with prokinetic agent or a gastric acid suppressant is suggested if the said test is negative.

**Results:** Dyspepsia patients' upper gastrointestinal radiographs were collected historically. Endoscopic tests, nowadays, have lost their reliability for upper endoscopic examination in authenticating or excluding ulcers, malignancies and reflux disease. Though, diagnostic gold standard for pylori infection is endoscopy with biopsy, yet, the whole procedure may be impractical and expensive. Detection of pylori can also be made in the breath with the urea breath test (UBT), in the stool with a polymerase chain reaction (PCR) test or an antigen enzyme immunoassay (EIA), in the serum with antibody titers etc. If *H. pylori* is detected with the UBT, breaking down of ingested carbon labelled urea into ammonia and labelled CO<sub>2</sub>, is carried out by urease produced by the organism. It can be identified in breath of patient. The UBT is costlier, more specific and more sensitive. Cost and practicality of serology is acceptable. Its specificity and sensitivity to identify *H. pylori* infection render it an appropriate position in the market in comparison to UBT. Positive serology test suggests inactive infection and previous *H. pylori* exposure. Hence, the authenticity of elimination of organism questions the test utility. The UBT is, thus, highly recommended test in this regard. urease is not further originated once *H. pylori* is eliminated. In younger patients, non-invasive detection of *H. pylori* in the feces is of poignant significance. Sensitivities reported of PCR and EIA for *H. pylori* are 93.70% and 88.90%. The relevant specificities are hundred percent and 94.6 %.

**Conclusion:** It is concluded that in such cases endoscopy should be carried out in case recurrence or persistence of symptoms. The base of this appraisal is on extensive search and clinical experience and study through "MEDLINE" on research papers, conference reports on Functional Gastro-intestinal disorders and review articles.

**Key Words:** Diagnosis, Dyspepsia, Endoscopy and Medical Management.

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## INTRODUCTION:

Dyspepsia can be defined as pain or discomfort on upper abdominal area which occurs persistently or sporadically. Vomiting, belching, bloating, heartburn, nausea is associated with this discomfort [1]. Greek word “dys” and “peptin” are the origin of the term “Dyspepsia”. Its exact meaning is ‘bad digestion’. It is thus, a generic term which encompasses a number of defined symptoms. These symptoms may vary from mild to severe in nature in different people. For the majority, therefore, self-management is optional. Almost less than half of the victims receive medical attention. It causes considerable health care costs i.e. diagnostic estimation and medications and loss of men working hours etc.

## Epidemiology:

Almost twenty-five percent (range from thirteen to forty) population is affected annually by Dyspepsia. Medical care is not sought by Most of the patients. Patients investigated who were affected by dyspepsia can be categorized into four classes according to their complaints. They are Malignancy, gastroesophageal reflux (without or with esophagitis), functional (or non-ulcer) dyspepsia and chronic peptic ulcer disease. Very less number of dyspepsia affected were affected by dyspepsia peptic ulcers (about fifteen to twenty-five percent) and reflux esophagitis (five to fifteen percent cases) [2]. Cancer has even declined ratio of less than two percent. When the symptoms are recurring for minimum 03 months and are chronic in nature, and there is none of the evidence of known organic malady after endoscopic or ultrasonographic, biochemical and clinical tests, that may probably describe the symptoms of discomfort or pain in area of upper abdomen, has been explained as ‘functional dyspepsia’. This category is found to be in almost sixty percent of dyspepsia patients.

## DIAGNOSIS

Patients presenting with dyspepsia, reflux esophagitis, gastric cancer and peptic ulcer disease are required to be excluded. Other potential cases i.e. NSAID-induced gastropathy, acute or chronic relapsing pancreatitis, intestinal parasites, cholelithiasis, carbohydrate malabsorption or diseases i.e. parathyroid or thyroid disorders, diabetes etc. should be evaluated in the differential diagnosis of dyspepsia.

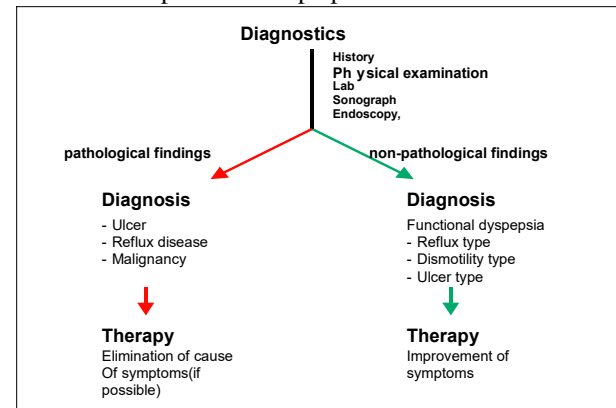
## History:

A comprehensive medical history is paramount in assessing the patient with Dyspepsia. Symptoms sometimes alone may not be good enough in determining a particular diagnosis. A group of investigators when endeavored to classify victims

according to their diagnostic groups, observed massive overlapping of symptoms [3]. These categorized groups were dysmotility-like, ulcer-like, reflux-like and unspecified dyspepsia. Only symptoms can verify GERD presence that’s why Reflux-like symptoms are of significant diagnostic worth.

## Physical Examination:

Physical examination with the exception of epigastric tenderness, is of vital importance in the patients affected by uncomplicated dyspepsia. Additionally, besides epigastric pain evaluation, physical examination is vital in assessing the patient’s status in connection with hemodynamics because tachycardia or hypotension could suggest loss of blood when gastrointestinal bleeding did occur. Symptoms of possible sickness include signal nodes (Virchow’s nodes), a palpable mass, weight loss, a positive fecal occult blood test and acanthosis nigricans. Endoscopy test is recommended for those patients affected by any of these symptoms or dyspepsia. Disease may also be indicated with the symptoms of anemia i.e. cheilitis, brittleness in nails, nail beds and pallor of the palpebral mucosa.



## MANAGEMENT STRATEGY

For dyspepsia patients, various views are said to be in vogue for the ideal management strategy. Undermentioned key options are available nowadays: -\*Prompt diagnostic assessment (for example, endoscopic tests and result oriented therapy in all cases) [4]. Recommended tests for H. pylori infection. Endoscopic tests in case of positive test to identify ulcer or cancer diseases. Antibacterial therapy for curing all positive tests. Empirical medical therapy (for instance, anti-secretory agent or a prokinetic agent). Immediate endoscopy based on readily available evidence is suggested especially in aged patients or those who have alarm symptoms i.e. anemia or weight loss. Role of endoscopy in patients

without alarm symptoms is always debatable. Preliminary empirical therapy in all cases postpone diagnostic testing. It may also establish unsuitable longer-term use of medications. Patients may also be not fully satisfied. Strategies that rely on H. pylori testing, advantages in functional dyspepsia are probably not great enough. Empirical cure in terms of its reasonable cost, seems more pragmatic and feasible. There are numerous decision analyses had been executed in relation to identification of the optimum management approach [5]. In choosing a strategy, victim and doctor behaviors of having diagnostic uncertainties, cost effectiveness, prevalence of the disease, ethics and patient satisfaction must be ensured. In pursuance of a comprehensive medical assessment and elaborated history of patient, biliary pain, GERD, irritable bowel syndrome and medication induced dyspepsia can either be authenticated or excluded. Since investigations revealed absence of organic lesion, 2/3 of the cases are attributed to functional dyspepsia.

#### **Non-pharmacological Management:**

Smoking should be stopped immediately by all dyspepsia patients. If their medical condition allow, ulcerogenic medications should be discontinued. Foods triggering their symptoms should not be eaten too [6]. Solution should be presented to sort out depression, stress or anxiety as they are potential threat to exacerbate this malady. Encouragement is vital but advice relating to stress relieving healthy activities (exercises, sports etc.) should also be taken into consideration.

#### **Pharmacological Management:**

Treatment goals in dyspepsia and functional dyspepsia

Aim of treatment in cases with structural lesion should be to identify the reason of a particular symptom. Permanent removal of the cause may be a part of the goal i.e. elimination of a H. pylori colony in peptic ulcer disease patients. It may involve launching a systematic treatment i.e. permanent antisecretory cure in reflux esophagitis patients [7].

Possibility of broad screening for structural lesions is not feasible due to practical reasons. Application of empirical therapy should be sufficient enough to erase a structural lesion. It should also clear up the high probable symptoms. Chronic recurring symptoms are found in the victims of functional dyspepsia (reflux disorders). In contrast to peptic ulcer disease, there is no permanent treatment in functional dyspepsia so far.

#### **Classification of patients with functional dyspepsia**

Functional dyspepsia patients may have diverse kinds of symptoms. In keeping view of their leading symptoms, functional dyspepsia patients are divided into reflux type or dysmotility type and ulcer type. The objective of this categorization is to find out groups of patients which are probably responding soundly to a particular cure [8]. It may be based on the correlation that exists between underlying dysfunction and dominant symptoms. This theory also predicts that symptoms related to ulcer-type or reflux-type would respond thoroughly to antisecretory while symptoms of dysmotility-type would respond well to prokinetics. Since overlapping exists between different kinds of dyspepsia, exacting discrimination is seldom possible [9]. Similarly, there is a clash of symptoms with irritable bowel syndrome, that is linked with lower abdominal symptoms and alters the frequency of bowel movements. This overlapping between irritable bowel syndrome and functional dyspepsia proposes a general pathophysiological foundation. Treatment for functional dyspepsia is nonexistent nowadays. Hence, the foundation of drug therapy lies on symptom improvement and control. Drug therapy is recommended when episodic nature of disease presents some severe symptoms. No therapy for chronic condition has been recognized yet.

Strategies of management according to various stages are appended below: -

#### **Stage 1:**

At this stage, counseling based on the possible reasons of symptoms is carried out after complete investigative procedures. Victims are often frightened of their symptoms as they consider them as of life-threatening disease [10]. Such fears can be rooted out through diagnostic procedures and counseling. The patients may be explored in counseling for the change of his or her life style (consumption of pain killers, eating habits, intoxication) which are potentially prompting particular symptoms.

#### **Stage 2:**

In case of failure of first step to improve the symptoms, second step is taken which is about drug therapy.

Clinical symptoms are fundamental criteria for drug therapy. For instance: -

\* Patients affected with ulcer-type symptoms are put on antisecretory.

\* Those who are affected with dysmotility symptoms will be receiving prokinetics.

\* Victims of primarily reflux-type symptoms will receive antisecretory or prokinetics.

#### **Stage 3:**

In case of unsuccessful drug treatment, therapeutic principle is recommended after about 02 weeks. This

is dubbed as third stage. Diagnosis should be reviewed if no significant improvement is seen. Additional procedures of diagnosis should be launched. Otherwise stage four should be consulted for elaborated procedures which involve use of measures of unverified efficacy [11]. They involve psychotherapeutic or psychosomatic treatment or elimination of *H. pylori* therapy (some researchers suggest *H. pylori* elimination should be preliminary precaution because it almost negates peptic ulcer disease as a reason of the symptoms). In some countries, cure with tricyclic antidepressants has been on the rise to fight against refractory dyspepsia. Even lower intakes can be useful against dyspepsia. For tricyclic antidepressants normal indications, the similar dose of medicine will show no effect. Tricyclic antidepressants efficiency usually has concern with modulation of visceral nociception at the level of central nervous system (CNS). Till now, the publication of formal studies on the efficiency of proton pump inhibitors in relation to functional dyspepsia has not been made [12]. In the studies conducted earlier on the efficacy of H<sub>2</sub>-blockers, pharmacological inhibition of acid secretion is a helpful (in comparison to placebo) measure in functional dyspepsia patients. Their action is usually related to inhibition of a symptom-triggering pathological reflux of acid resulting into esophagus. It is said that decrease of secretion of acid ameliorate symptoms which is due to interaction of chemosensory and mechanosensory afferent nerve fibers. But its results are unproven yet [13]. This inhibition of secretion of acid may be useful in many other organic diseases responsible for dyspeptic symptoms. Empirically, usage of proton pump inhibitors in case of dyspepsia patients with no previous details of diagnosis ameliorates reflux esophagitis the way it does in the case of peptic ulcer [14]. If we compare Proton pump inhibitors with other similar drugs, they are having less adverse effects and found far superior. Functional dyspepsia is chronic in nature. Patients affected by it demand treatment permanently and recurrently. Keeping in view vast experience, long term treatment without any side effects is thought to be applicable both in reflux disease and functional dyspepsia. In the process of clinical development of drug, various researches have been made on the efficiency of cisapride [15]. Collectively, prokinetic therapy is estimated to ameliorate the symptoms of functional dyspepsia. Nonetheless, it is pertinent to mention that no exact relationship between improvement of symptoms and the size of the impact on gastrointestinal motility do exist. Hence, operation mechanism of prokinetics may be based on other than acceleration of gastric emptying. Availability of

current prokinetic drugs i.e. metoclopramide or cisapride has certain challenges. For instance, owing to antidopaminergic effects, metoclopramide has central nervous adverse effects. Cisapride if used with the combination of antihistamines or motilides may result in long QT syndrome associated with potential cardiac arrhythmia. As a result, US-FDA has imposed a ban on the use of this medicine. Main misconceptions that challenge regarding dopamine D<sub>2</sub>, cisapride and related drugs is their effects on central nervous system. It is true in the case of metoclopramide. Both itopride (Ganaton®) and domperidone could have medically related anti-dopaminergic effects, however; their penetration in CNS is rarely observed. The reality that those have anti-emetic characteristics is not contradictory to the CNS effects absence [12].

In opened circumventricular organs by an anatomical blood-brain barrier, chemoreceptor trigger zone is a component of them. Effects of itopride and domperidone that are anti-dopaminergic are exactly peripheral. Albeit, at circumventricular level; secretion of prolactin is also regulated. Secretion of prolactin is very likely triggered by itopride and domperidone. It can be cumbersome because it can be responsible for potential side effects [16]. It is occasionally seen in case of itopride, however, it may be frequent in case of domperidone. It expounds the reality that domperidone prokinetic properties based solely on anti-dopaminergic action. Inhibitions of acetylcholinesterase and anti-dopaminergic actions play their significant roles in case of itopride [17]. The dual mode of actions permits to take advantages on both levels without requirement of any extra prolactin increasing actions of anti-dopaminergic. Evidently, anti-emetic actions of metoclopramide and domperidone seem to be dominant in comparison to prokinetic properties. They are absolutely efficient against stimulated vomiting by potent chemotherapy and dopaminergic stimulation. prokinetic action is predominant in case of itopride and anti-emetic action is striking but secondary facet.

### CONCLUSIONS:

There are many a question regarding management and evaluation of dyspepsia which are not answered yet. until now, data available to doctors to diagnose and manage dyspepsia is not sufficient enough. The present situation is further aggravated by the requirements of cheaper yet feasible approach in connection with dyspepsia. Doctors and practitioners associated with primary care must have adequate knowledge about the proper time of empirical treatment and arrangement of endoscopy tests etc. Early endoscopy is suggested for the patients with

high risk malignancy. Patients with serious disorders are suggested to treat with evidence based preliminary strategy of management. It may include tests of H. Pylori Which is followed by elimination of affected organs when the positive test is confirmed. A prokinetic agent or gastric acid suppressant can be utilized in cases of non-ulcer dyspepsia having no H. pylori infection and in patients with H. pylori infection who are non-respondent to anti H. pylori agents. In case of lack of improvement in symptoms, further special tests and endoscopy is suggested. If the diagnosis is nonnuclear or functional dyspepsia after carrying out all the specialized tests and procedures; emotional, dietary and environmental factors should be taken into consideration. These subsidiary treatments encompass a variety of miscellaneous strategies which are relaxation therapy, antidepressant drug therapy, hypnotherapy, psychotherapy and stress management etc. In the coming decades, we are expecting new insights and approaches contributing to better comprehend pathogenesis of functional gastrointestinal maladies e.g. functional dyspepsia. Nonetheless, it is worth pondering that either those new approaches or insights will reap fruit or not in the context of curing such diseases.

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