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Disorders of gut-brain interaction: Clinical approach and homoeopathic considerations

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Abstract
Disorders of gut-brain interaction (DGBIs) represent a group of highly prevalent gastrointestinal conditions characterized by persistent symptoms that cannot be attributed to structural or laboratory abnormalities. The global prevalence of condition is around 40%. These disorders have been an area of concern due to complex pathogenesis, multifactorial nature, and challenges they present in diagnosis and management. Recent advances have emphasized that altered microbiome play a significant role in DGBIs. Homoeopathy may offer a promising therapeutic option in such cases as approach of medicine selection is based on totality of symptoms of the patient. This article focuses on the approach in cases of DGBIs and homoeopathic management in such cases.

Keywords: Disorders of gut-brain interaction, gut-brain axis, Rome's criteria, approach, homoeopathic management

Introduction

Disorders of Gut- Brain Interaction (DGBI), formerly known as functional gastrointestinal disorders are a group of disorders characterized by GI symptoms that arise due to one or more of the following mechanisms [1]

- Motility disturbance
- Visceral hypersensitivity
- Altered mucosal and immune function
- Altered gut microbiota
- Altered central nervous system (CNS) processing [2].

Gut brain axis- is a complex bidirectional interaction between central nervous system and gut including enteric nervous system. Gut microbiota also influences these interactions. GBA is responsible for linking emotional and cognitive centres of brain to the intestinal functions. The communication network includes CNS, ANS, ENS and HPA axis. The signaling occurs through neural, endocrinal, immune, and humoral links. Afferent inputs from gut reach brain mainly via vagus nerve and spinal pathways, while efferent signal from brain to intestine through ANS and ENS. HPA axis is an important component of GBA axis which is not considered structurally connected to it but its stress response which results in release of cortisol is one of the major responses to modulate gut functions like motility, permeability. It also has an influence on altering gut microbiota. Emerging evidence has shown that enteric microbiota greatly influence GBA. Microbiota helps maintain gut motility, decreasing inflammation and secretion of serotonin, and mood regulations. Dysbiosis has been associated with disturbance in these functions contributing to the development of DGBIs [3].
Disorders of Gut-Brain Interaction (DGBI) are commonly encountered in practice. DGBIs are prevalent worldwide affecting 40% of general population [4]. They cause certain chronic symptoms including chronic pain, dyspepsia, altered bowel habits which are made worse by stress. Patients often experience psychological comorbidity like anxiety and depression. Evaluating such disorders can be particularly challenging for clinicians due to the wide range of potential differential diagnoses and absence of organic changes. A thorough history and physical examination are essential in directing appropriate investigations to rule out underlying organic pathology.

ROME IV criteria divide DGBIs in 33 adult and 20 pediatric disorders including [5]

Esophageal disorders

- reflux hypersensitivity,
- functional dysphagia,
- globus, etc.

Gastroduodenal disorders

- functional dyspepsia,
- postprandial distress syndrome,
- rumination disorders,
- belching disorders etc.

Bowel disorders

- irritable bowel syndrome,
- functional constipation,
- functional diarrhoea.

Centrally mediated GI pain

- centrally mediated abdominal pain, etc.

Of these most common being irritable bowel syndrome, functional dyspepsia, functional constipation, reflux hypersensitivity.

Approach IN DGBIs [6]

- A thorough history and comprehensive physical examination in initial assessment of patients suspected of DGBIs should be completed including onset, duration, character of pain, location, associating symptoms, psychological stressors, triggers.
- History should also include the medication history for any comorbid condition, family history of coeliac disease, Inflammatory bowel disease, lactose intolerance, IBS, gastrointestinal cancers. A detailed surgical history is essential, as individuals with previous abdominal operations may present abdominal wall pain localized to a surgical scar.
- Physical examination should be according to the presentation of the patient with detailed abdominal examination, rectal examination in patients presenting with constipation, rectal pain. During the physical examination, clinicians should remain vigilant for red-flag findings—such as jaundice, palpable abdominal masses, lymphadenopathy, or rectal bleeding
- For patients who do not exhibit alarm symptoms—such as unexplained weight loss, gastrointestinal bleeding, progressive dysphagia, persistent vomiting, anemia, or a palpable mass—and whose physical examination and baseline laboratory investigations are within normal limits, it is often appropriate to initiate empiric therapy without extensive initial testing. However, when clinical suspicion for an underlying organic disease is higher, a targeted evaluation—such as abdominal imaging, esophagogastroduodenoscopy, and/or colonoscopy—should be pursued to investigate suspected differential diagnoses. Disorders of Gut-Brain Interaction (DGBI) are considered diagnoses of exclusion, confirmed only after systematically ruling out other organic causes.
- Only after the other structural conditions have been reasonably excluded—and symptom patterns align with established diagnostic criteria (such as the Rome IV criteria)—can a DGBI diagnosis be made.
- The patient-provider relationship is central to managing DGBI. Clinicians should validate the patient's experiences, listen with empathy, and build trust to encourage disclosure of relevant stressors.
- Educating the patient regarding the diagnosis is important as the condition is multifactorial with psychosocial, neurological and gastrointestinal factors. Explaining patient that DGBIs typically do not resolve quickly; instead, they require ongoing, long-term care to achieve steady and sustained improvement is important.
- For mild symptoms Primary management in DGBIs includes reassurance and lifestyle modifications including low FODMAP diets, small frequent meals, adequate rest, stress reduction, exercise while in moderate and severe symptom presentations pharmacological therapy is needed along with these. Multidisciplinary treatment approach should be considered in such diseases.
- A routine outpatient follow ups with reassurance is important to assess symptoms regularly for long term success in improving patient's quality of life and functioning.

Homoeopathic viewpoint

Homoeopathic system is based on holistic approach. As emphasized by the pioneers, disease starts from within - the inner man is affected first eventually leading to morbid state in the end. Dr Hahnemann, in the organon of medicine has mentioned the role of mental and emotional states in the expression of disease and alteration of these states by prolonged physical illnesses (Aph. 225-230). This perspective highlights equal importance of mental symptoms in treating disease conditions. Such an understanding aligns well with conditions like functional Gastrointestinal disorders where physical and psychological factors play a crucial role.

Homoeopathic rubrics related [7]

1. MIND, Anger- abdomen; complaints in
2. MIND, Anxiety- abdomen; with distension of, burst, sensation as if abdomen would
3. MIND, Anxiety, constipation; with
4. MIND, Anxiety- constriction; from, stomach; in
5. MIND, Anxiety, diarrhoea, before
6. MIND, fear- pain- during- abdomen; in
7. MIND, Mental symptoms, accompanied by, epigastrium; pain in
8. MIND, Mental symptoms, accompanied by, stomach, complaints of
9. STOMACH, anxiety, excitement; after
10. ABDOMEN, liver and region of liver, complaints of, functional
11. ABDOMEN, Pain- excitement, after
12. ABDOMEN, Pain- anger, after
13. RECTUM, Diarrhoea, anger after
14. RECTUM, Diarrhoea, anticipation after

Homoeopathic medicines [8, 9]

- ARGENTUM NITRICUM- Upper abdominal discomfort triggered by excessive mental strain. Stools occur after emotional disturbances, often accompanied by flatulence. Painful spot over stomach that radiates to

all parts of the abdomen. Gnawing ulcerating pain; burning and constriction. Colic, with much flatulent distention. Anxiety about disease is marked. Anxiety is felt in pit of stomach.

- NUX VOMICA- Medicine has profound effect on nervous and digestive systems. Suited to person with great mental work, leading a sedentary life with overindulgence of stimulants. Person is thin, nervous, irritable, and active. Complaints of dyspepsia with ravenous hunger a day before the it. Nausea in morning, which is worse after meals. Abdomen is sensitive to touch. Colic from uncovering. Dyspepsia from coffee. Nux patients desires fats and can tolerate them well. Constipation with frequent ineffectual urge for stools. Absence of urge for stool is contraindicated.
- CHAMOMILLA- it is a remedy with chief symptoms related to mental and emotional sphere. Indicated to patients with marked irritability. Most complaints come after anger and vexation. Suited in irritable children with frequent colic, pressure at pit of stomach. Diarrhoea after anger, from chagrin, cold exposure. Pain around anus.
- LYCOPODIUM- Patient complaints of dyspepsia from starchy carbohydrate rich food. Bloating fullness in abdomen even after light meals. Abdomen feels full of gas with rolling of flatulence. Great hunger, desire for sweets. Like to take everything warm. Digestion is weak with sinking sensations in abdomen. Sour eructation, with burning in pharynx for hours after eating. Complaints are worse at 4-8 pm with patients being chilly.
- CARBO VEGETABILIS- there is a sense of weight in head, stomach, eyes. Constant heaviness, fullness in abdomen. Pain worse by lying down. Sour, putrid eructations. Burning in stomach extends upto spine. Complaints aggravate after meals. Abdomen feels sensitive and therefore cannot bear tight clothing around abdomen and waist. Weak digestion with easy putrefaction of food. Suited to patients with weakened vitality, who have not recovered from some past illness. Desire for fanning, Temporary relief from belching.
- COLOCYNTH-most suited for complaints of abdomen and head, in irritable person who easily gets angered. Agonizing pain in abdomen ameliorated by bending double is marked., anger, with indigestion.
- ALOE SOCOTRINA- complaints of sedentary lifestyle especially for hypochondriac patients. Dissatisfied from self. fullness in abdomen with pain under right ribs. Bloating with accumulation of flatus causing distress in abdomen. Colic before and after stools. Bearing down sensation in rectum. Haemorrhoids protrude like grapes, bleed, and sore better by cold water application. Weakness of sphincter ani. When passing flatus feels as if stools would escape. Stool lumpy, jelly like, watery. Rumbling and gurgling sensation in abdomen with burning and heat.
- ALUMINA- chronic tendency of eructation which are sour, acrid with a sensation as if oesophagus is contracted. Can swallow small portions. Pressure in stomach more in evening, post meals. Colic on exposure to cold, evenings. Painter's colic. Pains better by heat application. Patients crave starch, charcoal, chalks, dry food. Sluggishness is marked. Aversion to potatoes, cause bitter eructations. Paralysis of bowel with difficulty in passing even soft stools. No desire. Stools hard, knotty. Must strain a lot to pass the stools.
- SULPHUR- Indicated in complaints that are relapsing in nature. Helpful in beginning the treatment of chronic cases. Burning is marked with many complaints. Burning in epigastrium with sour eructations tasting of food, rotten eggs, bitter, burning. Eructations in morning empty stomach, on pressing the abdomen. Very weak and faints around 10-11 am. Cannot remain empty stomach, must have something to eat. Milk disagrees. Sensation of something alive in the abdomen. Constipation with stools hard, insufficient with much pain. Redness around anus with burning. Diarrhoea in morning in old people, driving out of bed.
- SILICEA- suited to patients who are nervous and excited. Yielding, anxious and rigid. Constipation before and during menses. Stools hard, difficult partly expelled then recedes back. Rectum feels paralyzed. Pain in pit of stomach on pressure. Vomiting after drinking. Complaints are accompanied by icy coldness of hands and feet. Imperfect assimilation and defective nutrition. Suited to rachitic children with large heads, open fontanelles, distended abdomen, slow walking and difficult assimilation. Worse during cold, morning, during menses.

Conclusion

In conclusion, disorders of Gut-Brain Interaction represent a significant global health burden due to high prevalence and its impact on quality of life. Early recognition and integrative approach including lifestyle changes, counselling are essential for improving patient outcomes. Homoeopathy as a therapeutic approach in DGBI aims at restoring the balance in gut- brain axis and overall well-being.

Conflict of Interest

Not Available

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