Guest Lecture

Old GUT Anorexia and Constipation

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Old Gut

Age related gut changes have been described as atrophy of oral mucosa, loose/lost teeth, periodontal diseases and resorption of mandible. Weakness of muscles of mastication, reduction in the number of taste buds, and decreasing salivary secretions contribute to disorganized swallowing mechanism. Weakened oropharyngeal muscles and disturbed coordination between oropharyngeal muscles and upper esophageal sphincter makes elderly prone to dysphagia and aspiration. Delayed gastric emptying, altered gastric acid secretions and malabsorption of multiple nutrients in small intestine add to the digestive issues. Decreased tone of abdominal muscles may affect peristalsis and evacuation may not be complete. There is reduction in the liver mass and hepatic blood flow compromising the ability to metabolize and detoxify toxins, hormones and drugs.

Anorexia

It is normal for older adults to eat less than they did in their 20s and 30s. This could be related to decrease physical activity and resting metabolic rate. However, nursing home patients who loose 10% of their body weight can have a significantly higher mortality, irrespective of the cause of death making it thus a worrisome anorexia. Thus, it is important to understand the cause of anorexia which could be psychological or physical. If it is psychological, it could be because of depression which in turn could either be exogenous (due to loss of independence, loss of a spouse, moving out of their family or transitioning to another level of care) or endogenous. The physical causes of anorexia include congestive heart failure, chronic obstructive pulmonary disease, diabetes, malignancies, and gastrointestinal complaints ranging from a gastric ulcer to bowel obstruction. It has also been found that elders aged 75 and older may not respond to the hunger regulatory hormones ghrelin and cholecystokinin as appropriately as in younger individuals thus culminating into early satiety. An important cause of anorexia in elders can be due to medication. Antidepressants such as sertraline and paroxetine can cause anorexia while being used for depression which itself might have caused anorexia. Any drug at toxic level can cause anorexia, important being warfarin, digoxin, and thyroid medications used commonly in elders. Majority of the time, the causes of anorexia may be as simple as ill fitting denture, oral Infections, dental Problems or as complex as poverty, isolation or reduced access to food. Elaborate drug history including vitamin, mineral, and herbal supplements is of utmost importance. Thus it makes particularly important for care givers to dig deeper for the necessary information. While evaluating anorexia, monitoring of bowel habits and weight is equally important. In elders, a significant weight loss is not usually attributable to simply dieting.

For elderly five or six small meals a day is optimal. Patient should be provided choices at each meal with food items of patients' choice. In case of severe anorexia, one must liberalize the diet even if patient is on restrictive diet. Liquid dietary supplements can be very useful to encourage appetite and weight gain. But the patients should consume these between the meals for a net gain and not as a meal replacement. Finally, nothing can replace socialization to ignite the desire to eat, with nice time and ambience at mealtime with hot food served on plates. Music of choice will add the spark. If family members share meal time with elders, it acts like an appetizer.

Constipation

Intestines do tend to become sluggish with age. The word constipation is used by common people as well as medical professionals to explain varied types of symptomatology. People take into account the number, consistency, quantity and the straining associated with stools. Normal frequency of stools can vary from three times a day to as less as three times a week. As long as there is no recent

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change and no discomfort, even less than this may be a normal practice in a given individual.

Constipation can be defined as decreased or difficult evacuation of the fecal matter. The underlying reason could be both functional as well as organic. Constipation occurs in about less than 2% of the general population. But it affects upto 30% of people aged 65 or more and affects quality of life. It affects about 75% of elderly in hospital or nursing home setting where they need medication to achieve satisfactory bowel evacuation. The most probable underlying factor is low intake of fiber and fluids because bowel mobility is not found to be decreased as a factor of simple ageing.

Neurogenic/endocrine disorders and drugs alter colonic motility and resultant retardation in transit within the colon is the most frequent non-obstructive cause of constipation. The various causes which could be there in elderly include:

1. **Self-medications or over the counter preparations**. The commonly used drugs which can cause constipation in elderly include analgesic like narcotics and NSAIDS, antacids containing aluminium hydroxide and calcium carbonate, anticholinergics, antidepressants esp. tricyclic ones and lithium, antihypertensives like verapamil, diuretics, laxative abuse, metals like bismuth, iron and heavy metals along with sympathomimetcs like pseudoephedrine. One must discontinue all the drugs which are not really required, and for essential medicines alternatives should be found. All efforts should be made to withdraw habit forming drugs.
2. **Idiopathic and irritable bowel syndrome:** One needs to promote the intake of fluids and fiber. Regular physical activity will help those with sedentary life.
3. **Hypothyroidism, hypercalcemia & hypokalemia** will require treatment of the underlying cause to alleviate constipation invariably.
4. **Structural abnormalities**: Anorectal disorders (fissures, thrombosed hemorrhoids, rectocele, strictures, tumours) need local treatment.
5. **Neurogenic disorders** like cerebrovascular events, parkinson's diseases, spinal cord lesions (trauma or tumours etc.) will need enemas for symptomatic relief whereas drug dose enhancement may help in Parkinson's disease. Bowel training could be of use for other neurogenic situations.
6. **Mental health problems**: depression and dementia etc. need appropriate treatment.
7. **Chronic debilitating diseases** and functional disability and bed ridden patients need regular help in the terms of social, medical, moral and rehabilitative support.
8. **Connective tissue diseases** like scleroderma etc. will require individualized approach.

Patient assessment

An elaborate history including the information of dietary intake especially fiber content and the amount of fluid intake will help understand the cause of constipation in a majority. Diminished sensitivity to thirst in elderly predisposes them to constipation. Complete general examination, looking for any abdominal mass, signs of systemic illness, inspection of anorectal area and per rectal digital examination will help to reach closer to the diagnosis. Stool examination for blood, endoscopic examination of rectosigmoid, full colonoscopy whenever desired or available, especially for recent onset symptoms are very informative. Biopsy of the mass lesion will obviously be confirmatory.

Plain abdominal films may show the extent of fecal retention and bowel obstructions, megacolon, volvulus and mass lesions. Enema will be diagnostic in the patient with suspected megarectum. Barium enemas may reveal an obstruction or narrowed segment. Radiographic transit studies are useful in patients suspected of having a colonic dysmotility syndrome. In refractory constipation motility studies will be useful.

Treatment

A **behavior modification** is especially useful when there is no underlying identifiable cause found after adequate investigations. A regular daily routine, having a bowel evacuation particularly after meal utilizing the gastrocolic reflex can be helpful. A habit of attending to the natural urge, warm water enemas and suppositories will be a useful aid. **Diet** Greater amounts of crude dietary fiber are associated with a lesser prevalence of constipation. **Bulk-forming laxatives** (unprocessed bran, ispaghula husk, methylcellulose, sterculia), in elderly, especially those restricted to chair or bed, may be more acceptable and useful. **Osmotic laxatives** (polyethylene glycol, sorbitol, lactulose, macrogols, phosphate enemas, and sodium citrate enemas) work by retaining fluid in the large bowel by osmosis. **Stimulant laxatives** (bisacodyl, dantron, docusate sodium, glycerol, senna, and sodium picosulfate) are very commonly used and have their own advantages and limitations. **Faecal softeners** work by wetting and softening the faeces include docusate sodium, arachis (peanut) oil enemas, and liquid paraffin.