The Management of Severe Intestinal Dysmotility

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Severe chronic bowel dysmotility occurs when there is a failure to propel the gut luminal contents without there being an organic obstructing lesion and the patient is malnourished. The diagnosis can be difficult to make, often due to other contributing factors (e.g. opioids/cyclizine, abdominal surgery, psychosocial problems and malnutrition) which themselves can cause/exacerbate dysmotility. These patients present with challenging problems requiring a careful multi-disciplinary team (MDT) input.

Key points

1. Mechanical obstruction must be excluded (especially if dilated loops of bowel are noted) usually with a CT scan of the abdomen after oral contrast.
2. Patients with severe chronic small bowel dysmotility may have predominantly a myopathic, a neuropathic or idiopathic aetiology.
3. The patient's primary symptoms/problems should be listed in order of importance to the patient and physician.
4. Contributing factors (e.g. drug therapy, psychosocial and quality of life issues) must be evaluated.
5. The patient's nutritional status is assessed and, if poor, nutritional treatment is begun while taking into account refeeding risks.
6. Motility tests to help establish a clinical diagnosis should be performed when the patient is not taking any medications that affect gastrointestinal motility (e.g. opioids and cyclizine) and ideally when they have achieved a normal body mass index.
7. A definite diagnosis of dysmotility should not be given unless it is certain. Terms such as possible/probable or working diagnosis are preferred.
8. A plan and treatment goals should be agreed between the patient and the MDT to help symptoms, nutritional status, psycho-social issues and quality of life. All healthcare workers should give the same agreed information to the patient/family/carers.
9. Surgical options may be considered. These include insertion of jejunal feeding tubes, venting stomas, a full thickness jejunal biopsy and selected bypasses/resections or rarely small bowel transplantation.
10. All injectable treatments should be avoided, particularly cyclizine. Opioid drugs of all types should also be avoided. If any of these are already being used, every effort should be made to wean the patient from them.

Explanations

1. Mechanical obstruction may not show on radiological investigations. If the history fits for this (sudden onset colicky abdominal pain, borborygmi, and diarrhoea as it resolves) then a low fibre diet may be tried.
2. Patients with a predominant myopathy have a poorly contracting, often dilated gut with bacterial overgrowth. This may be referred to as chronic intestinal pseudo-obstruction (CIPO). A myopathy may be due to a primary gut disease (e.g. hollow visceral myopathy) or a secondary disease (e.g. systemic sclerosis, dermatomyositis, myotonia dystrophia, amyloid, irradiation or muscular dystrophies).

   An enteric neuropathy is the most common type of enteric dysmotility and the gut is usually not dilated (non-CIPO) and may constantly contract in an uncoordinated fashion. It is often secondary to an underlying neurological process that involves the central and/or peripheral nervous system (e.g. cerebral, brain stem or spinal cord lesion, Parkinson's disease, Guillen-Barre syndrome or multiple sclerosis). An enteric neuropathy may result from autonomic failure (e.g. diabetes mellitus) or it can be a paraneoplasic condition (e.g. from small cell carcinoma of the lung). More rarely, it is a primary condition (e.g. a mitochondrial disorder).

   When the pathological process is uncertain the term idiopathic dysmotility is used. Hypemobile Ehlers-Danlos syndrome fits into this category and is associated with gut hypersensitivity.

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3. The primary symptoms from both an enteric myopathy and neuropathy are abdominal pain, diarrhoea/constipation, nausea/vomiting bloating and weight loss. The abdominal pain often follows food intake.

4. Many medications may affect gastrointestinal motility, especially opioids which when used chronically can worsen the abdominal pain (narcotic bowel syndrome). Cyclizine in addition to having anti-cholinergic effects appears to be addictive when given as a bolus intravenously.

   Most dysmotility patients have significant psychological morbidity, which is either primary and precedes the onset of symptoms (e.g. trauma or abuse), or is closely tied up with the perpetuation of symptoms (or both).

5. Nutritional treatment starts with preventing/treating refeeding problems, then giving oral supplements before considering enteral tube feeding (gastric or jejunal). Parenteral nutrition is reserved for those in whom enteral nutrition fails to maintain or improve nutritional status or occasionally in those with pain after any feed (gastric or jejunal) and who are also malnourished. There is an emerging consensus amongst nutrition support teams that gastrointestinal dysmotility patients do less well with invasive nutrition (e.g. percutaneous enteral tube feeding, or home parenteral support (HPS)). Patients receiving HPS have a higher incidence of catheter- related blood stream infections. There should be very careful MDT discussion before moving towards these treatments, and HPS should be reserved for patients who genuinely have intestinal failure.

6. Tests to establish a diagnosis may include whole gut transit (using shapes), manometry (though can be poorly tolerated and availability may be limited), isotopic gastric emptying/small transit studies or rarely a full thickness jejunal biopsy (commonly done when abdominal surgery is being performed for another reason). Medication (e.g. opioids, cyclizine or other anticholinergic drugs) that may reduce gut transit should be stopped at least 3-5 days before the tests (longer if a withdrawal reaction is likely). As malnourished patients may have delayed gastric emptying and gut transit, the nutritional status of the patient should be as near normal as possible.

   Tests to help establish an aetiology include blood tests for hypothyroidism, coeliac disease, diabetes, scleroderma, paraneoplastic conditions and mitochondrial disorders, and a chest X-ray (or CT/PET CT) for thymoma or other neoplastic conditions (e.g. small cell carcinoma of the lung).

7. Once a patient is given a diagnosis of dysmotility, it is very difficult to remove it, hence when not certain (as is often the case) a diagnosis of possible/probable or a working diagnosis are used. As the clinical situation changes, the diagnosis may be reconsidered or confirmed. A sub-specialist assessment from a neuro-gastroenterologist can be very helpful, although most units have long waiting times, or restrictions on which patients can be referred.

8. There should be an MDT that includes psychology and pain management and it will provide support not only for the patients/relatives/carers but also for the MDT. It is hard to manage these patients without a psychological input to the MDT. Most patients will benefit from treatment from a clinical psychologist, although in many hospitals this type of referral can be difficult to achieve.

9. In general, surgical procedures are avoided in these patients for fear of causing adhesions, complications and often not providing a solution to the symptoms. If abdominal surgery is to be performed, a full thickness jejunal biopsy at the same time should be considered.

10. Opioids are no longer used for chronic pain due to the benefits not being sustained, a risk of causing narcotic bowel syndrome, and physical and psychological dependence. Intravenous cyclizine as a bolus is addictive and can damage veins and catheters so should be avoided.

Suggested reading:

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