

Review

Etiological factors of constipation in the elderly, with emphasis on functional causes

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العوامل المسببة للإمساك بين المسنين، مع التركيز على الأسباب الوظيفية

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الخلاصة: يمثل الإمساك شكوى مثيرة للإزعاج، ولاسيما بين المسنين، إلا أن الإمساك مازال يُعد في أغلب الأحوال قضية سهلة المعالجة. ويؤدي نقص اهتمام الأطباء وعدم كفاية تدريبهم حول سبببات الإمساك، إلى عدم مقدرتهم على معالجة هذه المشكلة معالجة فعّالة. وكثيراً ما يتحوّل الإمساك إلى مشكلة مزمنة مستعصية على العلاج، ويكون ذلك على الأرجح نتيجةً لأنماط خاطئة طويلة الأمد من حيث التعوّط والعادات الغذائية واستعمال الملينات، تضاف إليها التفاعلات الفيزيولوجية المرضية وربما التغيّرات الشيخوخية في حركة الأمعاء. وتستعرض هذه المقالة أنماط وأسباب الإمساك والتدبير العلاجي لهذه المشكلة بين المسنين.

ABSTRACT Constipation is a particularly troublesome complaint in the elderly yet it is usually considered to be a simple management issue. Therefore physicians' lack of interest in and inadequate training about the etiology of constipation may contribute to their inability to manage the problem of constipation effectively. Constipation can become a chronic problem, refractory to management, and most likely the result of lifelong patterns of bowel and dietary habits and laxative use, along with the interaction of pathophysiological and perhaps senescent changes of gut motility. This article reviews the types and causes of constipation and the management of the problem in the elderly.

Facteurs étiologiques de la constipation chez les personnes âgées en général et causes fonctionnelles en particulier

RÉSUMÉ La constipation est un problème particulièrement gênant chez les personnes âgées, mais elle est en général considérée comme une simple question de prise en charge. Par conséquent, le manque d'intérêt des médecins et une formation inadaptée à l'étiologie de la constipation pourraient expliquer leur incapacité à prendre en charge efficacement ce problème de santé. La constipation peut devenir chronique et résistante à la prise en charge. Elle résulte le plus souvent d'habitudes de toute une vie en matière d'évacuation intestinale, d'alimentation et d'utilisation de laxatifs, ainsi que de modifications physiopathologiques et peut-être sénescences de la motilité intestinale. Le présent article examine les types de constipation, leurs causes et la prise en charge de ce problème de santé chez les personnes âgées.

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Introduction

The world's population is ageing. At the same time the elderly have special medical needs caused by the interaction of disease with the ageing process. There are few gastrointestinal disorders found exclusively in older people but the balance of diagnostic possibilities may be markedly altered for a given symptom or set of clinical findings when compared with younger patients. The elderly often postpone visiting the general practitioner and may give a confusing account of their symptoms. The physical signs may be misleading. For these reasons the recognition of gastrointestinal disorders is often difficult in older people and the prognosis may be quite different from that of the younger patient. Age-related changes must not be overlooked in the differential diagnosis of gastrointestinal disorders [1].

Constipation is a particularly troublesome complaint in the elderly yet it is usually considered to be a simple management issue. Therefore treatment is frequently delegated to the least trained member of a health care team. Furthermore physicians (senior and junior) are usually not formally trained in evaluating or treating constipation [2]. In reality, constipation remains a common, important problem particularly in the elderly, and may be extremely difficult to manage.

Types of constipation

Organic constipation should be differentiated from functional constipation. Organic constipation is usually associated with mechanical obstruction, such as narrowing of the intestinal lumen due to tumour, scar, adhesion and also abnormalities in the intestine (megacolon, megasigmoid, diverticulosis) [1,2]. Functional constipation occurs in an apparently normal anatomy of the colon [1–3]. It is subdivided into:

- Simple constipation (colonostasis).
- Neurogenic constipation due to dysfunction of the intramural neural apparatus or vagus nerve. This is the so-called dyskinetic constipation, caused by the reflex action on the intestinal motor function of another affected organ (cholecystitis, adnexitis, prostatitis) or by organic problems of the central nervous system (tumours of the brain, encephalitis, posterior spinal sclerosis).
- Constipation associated with inflammatory diseases, mainly of the large intestine.
- Toxic constipation occurring in exogenous poisoning with lead, morphine or cocaine.
- Constipation of endocrine etiology, occurring in thyroid or pituitary hypofunction.
- Constipation caused by lack of physical exercise.
- Metabolic constipation, such as in hypokalaemia.
- Psychogenic constipation.
- Muscular constipation.

Causes of constipation

The most common causes of constipation in elderly people are simple colonostasis caused by lack of physical exercise; mechanical constipation; muscular constipation; neurogenic and psychogenic constipation; and metabolic constipation [4].

Simple constipation

Two groups of causes of simple constipation (colonostasis) may be distinguished. Some causes depend entirely on the patient, while others stem mainly from unfavourable environmental circumstances in which the person finds himself [2,4]. Some people ignore the urge to defaecate until the rectal receptors no longer react to the usual stimuli. Their stimulation and the urge to defaecate occur

only under the effect of intra-intestinal pressure that is higher than normal at the time of defaecation [2]. In the elderly there is usually some disorder of normal motor activity of the large intestine and this leads to colonostasis. The simple causes of colonostasis in elderly people include poor dietary habits, insufficient physical activity and suppressed activity of the reflex mechanisms involved in defaecation [3].

Stretching of the rectum in a healthy person is accompanied by an urge to pass a stool. In elderly people with constipation the sensitivity of the rectal receptors to stretching is diminished. These leads to accumulation of copious amounts of faeces in the rectum and despite an overfilled rectum, they rarely have an urge to pass the stool and this leads to dilation of the rectum.

Mechanical constipation

Mechanical constipation is more common in elderly people than the young. The obstruction of the lumen of the intestine can be caused by tumours, diverticulosis and prolapse of the rectal mucosa. Also the intestine may be compressed by ascites, an enlarged uterus or its adnexae or tumours of other neighbouring organs. In these cases colonostasis is caused not by organic narrowing of the intestinal lumen, but by disorders of the reflex mechanisms of evacuation mainly due to pain arising from the intestine itself or structures connected with it [2].

Muscular constipation

The term muscular constipation is constipation mainly due to weakness of the muscles responsible for movement of the faeces and their discharge from the intestine. Defaecation is mainly achieved by contraction of the diaphragm. The functional state of the diaphragm suffers in diseases of the lungs, such as pulmonary emphysema, particularly in older

people. The muscles of the abdominal wall, which also play an important role in raising intra-abdominal pressure, are also often weakened in the elderly. Contraction of the muscle elevating the anus is very important in the discharge of faeces from the rectum. This muscle is often atrophied in older females who have had multiple pregnancies, and functional deficiency of this muscle is evidently among the causes of constipation in these women [1]. Atrophy of the rectal smooth muscles is one of the main manifestations of scleroderma and Chagas disease [1]. The gastrointestinal tract is involved in the early stages of scleroderma in which the normal muscle tissue is replaced by connective tissue and this delays the movement of the faeces in the large intestine and leads to constipation. Diminished function of the muscles of the intestinal wall is also one of the causes of colonostasis in older individuals [2].

Psychogenic and neurogenic constipation

Psychogenic and neurogenic constipation in elderly people occurs in states of depression, schizophrenia and nervous anorexia. Patients with these diseases often ignore the urge to defaecate. It is possible that these urges are noticeably diminished under the effects of these diseases or due to the effects of the drugs used to treat them. Diseases of the lumbosacral part of the spinal cord and the cauda equina (such as in tumours or syphilis) are accompanied by severe colonostasis, and the large intestine is sharply dilated by the accumulation of faeces [4].

Metabolic constipation

Constipation is encountered in some endocrine diseases. Colonostasis is often among the earliest signs of myxoedema. The other signs of myxoedema usually appear later than constipation. Colonostasis is also often encountered in elderly patients with diabetes

mellitus complicated by neuropathy [1]. Constipation in elderly patients with severe heart failure usually disappears soon after oedema is relieved. Diuretics intensify constipation in patients with congestive heart failure by causing hypokalaemia. Correction of hypokalaemia and decreasing the dose of diuretics can bring some relief of constipation but does not eliminate it completely [2].

Management of constipation

- The physician should enquire if the patient is taking any drugs which have a constipating effect.
- Elderly patients should be encouraged to visit the lavatory regularly. Proper attention should be given to high gut motility periods (in the morning and after meals), by encouraging the patient to allow adequate time in a relaxed environment for a bowel movement during these periods. In some communities, especially in developing countries, the toilets are not suitable for use of elderly people with some motor weaknesses or disability.
- Elderly patients should be advised to drink large quantities of water, eat fibre-rich foods, especially fruits and vegetables, and take a reasonable amount of regular exercise. The patient should be advised that if he/she is taking only small amounts of solid foods, he/she can suffer constipation or small amounts of stool. The treatment here is to take sufficient food and not laxatives.
- The patient should be advised not to use a laxative without a physician's prescription. Elderly patients should be advised to avoid irritant laxatives unless these meet strict criteria for their use. Indications for this class of laxatives include severe muscle weakness, constipating medication that

cannot be stopped and loss of rectal reflex which is seen in chronic idiopathic constipation.

- A top priority for physicians in cases of chronic constipation in the elderly is to search for an underlying cause and not to delay from carrying out invasive investigations such as endoscopy if necessary. The patient should be warned that in some cases the cause of constipation is an obstruction due to a tumour. The patient should be informed also that there are different types of laxatives with different modes of action, and some of them may not be suitable for some patients.
- First-line treatment for chronic constipation in the elderly is osmotic agents, sometimes with the addition of a local agent. Osmotic agents are non-absorbable sugars (lactulose or sorbitol) that result in an increase in water content of the stool. The recommended dose of lactulose is 15–30 mL per day but may be increased to 60 mL in divided doses. Blood sugar levels in diabetics should be monitored carefully.

Constipation can become a chronic problem, refractory to management, and most likely is a result of lifelong patterns of bowel and dietary habits and laxative use, along with the interaction of pathophysiological and perhaps some senescent changes of gut motility. The idea that factors such as bowel habits, dietary fibre, liquids and long-term laxative use contribute to chronic constipation is not a new one and suggests that physicians' lack of interest and inadequate training in the management of constipation may actually be contributing to their inability to manage the problem of constipation effectively. Also, because of the ready availability of laxatives, which are advertised as safe and gentle, patients are not educated in methods of maintaining good bowel habits, and dietary management of constipation [1,2].

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Age-friendly primary health care (PHC) centres toolkit

Increased longevity is not only a triumph for society but a huge challenge for health systems which need to be prepared to address the needs of older people at the community level. In general, training for health professionals includes little if any instruction about care for the elderly. However, they will increasingly spend time caring for this section of the population. The World Health Organization (WHO) maintains that all health providers should be trained on ageing issues, regardless of their specialism.

Most preventative health care and early disease screening takes place in primary health care (PHC) centres within health systems. These centres play a critical role in the health of older people worldwide at the local level. Therefore, WHO developed the *Age-friendly primary health care (PHC) centres toolkit* that assists health care workers in the diagnosis and management of the chronic diseases that often impact people as they age.

The purpose of the toolkit is to:

- improve the PHC response for older persons.
- sensitize and educate PHC workers about the specific needs of their older clients.
- provide PHC workers with a set of tools/instruments to assess older people's health.
- raise awareness among PHC workers of the accumulation of minor/major disabilities experienced by older people.
- provide guidance on how to make PHC management procedures more responsive to the needs of older people.
- offer direction on how to do environmental audits to test PHC centres for their age-friendliness.

These resources are intended to supplement and not to replace local and national materials and guidelines. Further information about the toolkit is available at: http://www.who.int/ageing/publications/upcoming_publications/en/index.html