

Caring for the person with diverticular disease

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Abstract

Diverticular disease is a common condition predominately found in western developed countries, prevalence increases with age. Although a number of people are affected by diverticular disease a considerable amount are asymptomatic. The causes of diverticular disease are often unknown; however, alterations in the wall of the intestine and a diet that lacks fibre contribute. The signs and symptoms of the disease vary and maybe different depending on each individual. This article discusses the possible causes of diverticular disease, the signs and symptoms, investigations that may be used to make a diagnosis and the care and treatment available are outlined. The role and function of the healthcare assistant and assistant practitioner are included. Teaching points are outlined and finally a glossary is provided.

Key words

■ Intestines ■ Infection ■ Lumbar puncture

A diverticulum is a small pouch or bulge that sticks out (herniates) from the wall of the large intestine, if there is more than one diverticulum (and they can occur in their hundreds, (Newcombe, 2008)) they are known as diverticula and the condition is referred to as diverticulosis. Diverticula can also occur in the oesophagus (Quinn, 2008). Diverticulitis is a condition that is associated with diverticular disease and occurs

when the small pouches become infected and inflamed. There are three key terms used to describe the presence of diverticula in the large bowel and these are summarized in *Table 1*.

A diverticulum occurs when it pushes through the mucosal lining of the surrounding muscle of the wall of the intestine (*Figure 1*).

If left untreated, diverticulitis can cause serious problems as the infection can spread to other parts of the body and this can result in a fatality.

Stollman and Raskin (2004) note that diverticulosis is common in the developed world and as the person ages, so too does prevalence, the majority of people affected are over 80 years of age with many people remaining asymptomatic, this is sometimes referred to as asymptomatic diverticulitis. Core (2005) points out that less than one person in 20 has the condition before the age of 40 years and this rises to a quarter of the population by the age of 60 years.

Most diverticula are found in the lower part of the large bowel, the sigmoid colon (Newcombe, 2008) but they can also be found in other parts of the bowel.

Causes of diverticular disease

Three out of four people with diverticula are unaware that they have the condition. The reason why some people with diverticula become ill with the disease is unknown, the precise mechanism of diverticula formation is not known (it is idiopathic).

An increase in pressure in the lumen (intraluminal pressure) of the bowel coupled with a weakness of the bowel wall as well as low dietary fibre are the key causes of diverticular disease.

Solid faecal matter (the remains of food after all the nutrients have been absorbed) is usually passed from the body through the anus as waste. If an individual becomes constipated then the passage of the faecal matter and the pressure within the intestine increases. If this occurs where there is muscle wall weakness, this can lead to herniation of the bowel wall resulting in sac or pouch formation. A number of people with diverticular disease have a history of constipation.

The small pouches in the bowel can become blocked with faecal matter, this becomes stagnated (as is sometimes the case with appendicitis, (Peate, 2008)) and bacteria proliferate forming a faecolith (a hard mass of

Table 1. Key terms

Term	Meaning
Diverticulosis	Many people have diverticula without knowing it, these are only found when they have a scan or investigation. Having diverticula without symptoms is called diverticulosis.
Diverticular disease	Symptoms caused by diverticula
Diverticulitis	Implies that the diverticula are inflamed and/or infected

faecal matter). When this happens irritation can occur and the increase in bacteria results in inflammation and the potential for ischaemia (deficiency of blood supply) to increase.

There are a number of serious conditions that can occur as a result of diverticulitis. If the pouch-like sac in the bowel perforates (known as peridiverticulitis), abscesses or fistulae into adjacent organs may form. In some cases generalized peritonitis can occur.

Signs and symptoms

The signs and symptom of diverticular disease vary from person to person but are often associated with abdominal pain and discomfort, this pain may be aggravated by eating. This pain and discomfort can be intermittent and may be situated in the left iliac fossa. In some Asian people this may migrate to the lower right hand side of the abdomen. Some Asian people develop diverticula in a different part of the intestine, this is thought to be genetic (Markham and Li, 1992). The pain may be described by some as 'colicky'; a tender mass may be palpated in the abdomen. The pain may be relieved by defaecation or the passing of flatus. When diverticulitis is a potential diagnosis, intensity and duration of pain vary from person to person. Signs and symptoms associated with diverticulitis can include:

- Pyrexia (fever)
- Tachycardia (rapid heartbeat: over 100 beats per minute)
- Malaise (bodily discomfort or weakness)
- Fatigue
- A bloated feeling
- Flatulence
- Nausea
- Altered erratic bowel habit
- Alternating constipation and diarrhoea
- Frequency in urination
- Dysuria (difficult or painful urination)
- Rectal bleeding associated with shock if bleeding is profuse

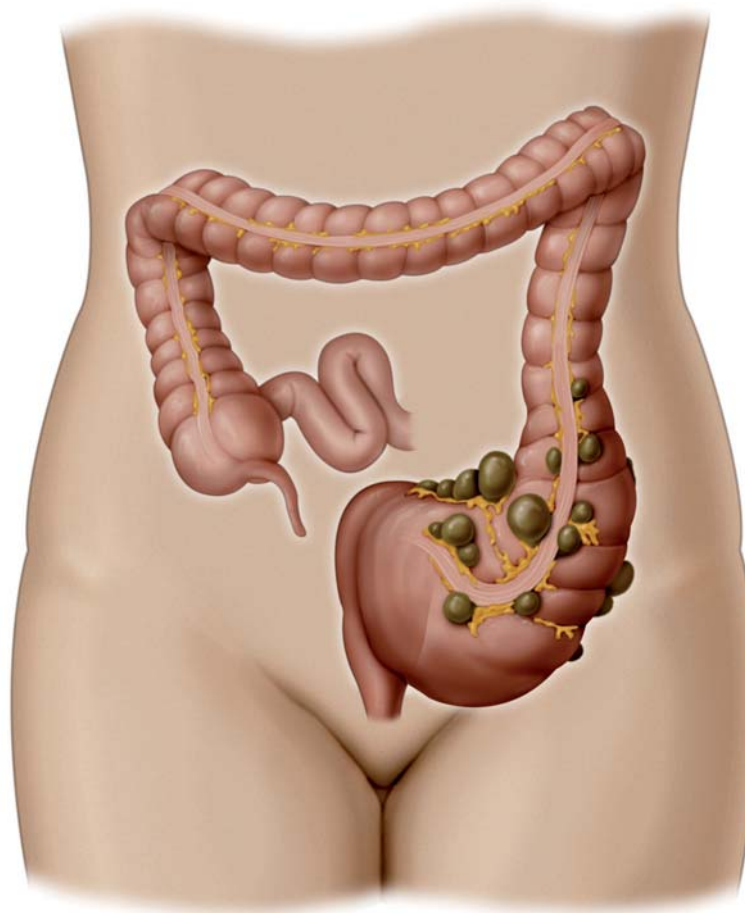
It should be noted that in older people there may be fewer signs and symptoms.

Investigations and diagnosis

A detailed history is required and the person is encouraged to share with the healthcare worker the presenting issues, they may reveal a history of diverticulosis. A physical examination will also be needed. A sensitive and respectful approach to gathering the history is required; the person might need help in describing intimate aspects of their life such as, bowel habit as well as describing the faeces they are producing.

Diagnosing diverticular disease and diverticulitis can be difficult as there are other potential diagnoses that can be made, for example, irritable bowel syndrome, acute appendicitis, carcinoma of the colon and some urological or gynaecological conditions. It is usual for

Figure 1: Diverticula in the intestine



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the person's blood to be taken for assessment, the blood results will not provide a diagnosis of diverticular disease and diverticulitis but they may rule out other potential conditions. If the blood specimen contains a higher than normal number of white blood cells this may indicate an infection. Usually the investigations outlined in Table 2 are required in order to help make a diagnosis. Generally, investigations are carried out after the acute inflammatory stage has been resolved.

Care and treatment

The prognosis becomes less favorable for those people of advancing age (Tamparo and Lewis, 2005). The healthcare assistant (HCA) and assistant practitioner (AP) must take into account personal needs and preferences when caring for and helping to treat the person with diverticular disease or diverticulitis. Fully informing the person about all proposed interventions, procedures and planned treatment is necessary with the person being considered as a partner in care, working with the healthcare team. It is imperative that the person should be treated with respect and sensitivity at all times and any information required should be offered in a way that the individual will be able to make informed decisions.

Treatment and care will depend on each individual

Table 2. Testing for diverticular disease and diverticulitis

Test	Explanation
Sigmoidoscopy	<p>The visualization of the rectum and sigmoid colon is carried out by using an instrument called a sigmoidoscope. This small tube has a light source attached and is about the thickness of a finger. The sigmoidoscope is carefully inserted and advanced into the rectum allowing the operator to see the lining of the rectum and sigmoid colon.</p> <p>A laxative will be required prior to undertaking the examination and this will need to be prescribed and administered in accordance with local policy.</p> <p>No sedation is required for this procedure but healthcare assistants (HCAs) and assistant practitioners (APs) should provide physical and psychological support to the person before, during and after the procedure has been carried out.</p> <p>The procedure usually takes approximately 15–20 minutes</p>
Colonoscopy	<p>A thin flexible tube called a colonoscope with a fibreoptic telescope and camera and is as thick as the little finger is inserted and guided through the anus into the rectum and into the colon, the colonoscope can be guided right around the large bowel. This procedure is sometimes carried out using local anaesthetic, the person may also be given intravenous sedation. The investigation can confirm the presence of diverticula on the colon.</p> <p>A laxative will be required prior to undertaking the examination and this will need to be prescribed and administered in accordance with local policy.</p> <p>The person needs to lie on a couch or examination bed on their left side. The person may feel that they want to open their bowels or pass flatus when the tube is in position, this is normal and the HCA and AP should encourage them to relax and make attempts to alleviate embarrassment. The procedure usually takes approximately 20–30 minutes</p>
Barium enema X-ray	<p>This type of X-ray is also used to confirm the presence of diverticula. On an ordinary X-ray the colon does not show up very well but if a thick white liquid called barium is used this will coat the lining of the colon and will then show up very clearly on X-ray. The liquid is given as an enema through a tube passed into the anus.</p> <p>A laxative will be required prior to undertaking the examination and this will need to be prescribed and administered in accordance with local policy</p> <p>The person needs to lie on a couch or examination bed on their left side as the barium is passed through the tube into the colon. The aim is to ensure that the barium is passed along the colon and in order to do this the person will be asked to move into different positions with the HCA and AP supporting the person, as well as maintaining their dignity and promoting comfort. In some instances a muscle relaxant is used to promote relaxation of the muscles of the colon. Another technique used is to pass air into the colon to expand it. When the barium has spread throughout the colon a number of X-rays are taken with the person in different positions. The procedure takes approximately 20 to 30 minutes and the patient can then use the toilet if they wish to.</p>
CT (computerised tomography) scan	<p>Sometimes this is also known as a CAT Scan (computerised axial tomography) scan. This special type of X-ray takes three dimensional pictures that enable the radiologist to build up a picture of the insides of the person's body. It has the ability to detect abscesses.</p> <p>The person must lie on a couch that is moved underneath a scanning device. A gown is usually worn; metal objects such clips, pins and jewelry must be removed. The person may be asked not to eat or drink prior to the procedure however, in some instances a special drink may be given just prior to the scan, this helps ensure that there is a difference in contrast between different organs and tissues. The HCA or AP may be asked to reinforce information given to the person to help them understand what is required of them.</p> <p>In total the procedure takes approximately 20–30 minutes</p>

and their unique needs, as well as acknowledging the person's preferences. Many cases of diverticular disease can be treated at home with over the counter analgesia being used for pain control, e.g. paracetamol. Stronger analgesia may be prescribed. Non-steroidal anti-inflammatory medications, such as ibuprofen and

aspirin should be avoided as these have the ability to cause a gastrointestinal bleed. The person should be encouraged to eat a high-fibre diet and drink plenty of fluids. If the person is constipated then they may be treated with a bulk forming laxative.

For those people with more severe diverticular disease

and diverticulitis they may require admission to a hospital. There are a number of potential complications but it must be noted that most people with diverticular disease and diverticulosis never get these complications (Stollman and Raskin, 2004):

- If diverticulitis is so severe that it ruptures this can lead to a surgical emergency and the person can suffer with peritonitis.
- Scar tissue can form around the area of the colon that is inflamed and this can then lead to bowel obstruction.
- If a blood vessel in the wall of a diverticulum ruptures it can result in haemorrhage.
- Those people with an abscess may need to undergo surgery with the aim of draining pus from the abscess.
- Surgical intervention may be required to remove any fistulae that have formed.

Control of pain and the monitoring of the effectiveness of interventions are required. A low residue diet may be provided, alternatively food can be withheld and the person permitted to take only oral fluids. One of the aims of this is to rest the bowel and to allow the inflammation to subside; oral hygiene should be offered.

Antibiotic therapy will be commenced and these may be given orally or via the intravenous route. In addition, an intravenous infusion will be required to ensure the person is adequately hydrated. HCAs and APs should help the individual to perform their activities of living as the person should be encouraged to rest.

If hemorrhage has occurred a blood transfusion might

be required and the appropriate care and treatment associated with blood transfusion according to policy and procedure should be instigated.

Surgical intervention might be needed, for example, resection of the colon and in some instances formation of a stoma, if this is the case the HCA or AP may be called upon to ensure the person is safely prepared for theatre. Peri-operative and post operative care are equally important and they must be given due consideration.

As well as ensuring the person has high quality physical care the HCA and AP must also provide psychological support. Actively listening to any concerns that the person (or family) may have can help to alleviate anxiety and offer reassurance. It could be that the HCA and AP feel that they are unable to answer some of the questions that the person or their family raises, if this does occur then the issues should be passed on to a registered healthcare professional.

Teaching points

The person with diverticular disease or diverticulitis may need to be provided with explanations associated with the disease, for example, they may need help in understanding all of the various words used when healthcare workers are talking about diverticular disease or diverticulitis. Careful explanation should also be offered regarding the range of diagnostic tests that may be required, including any preparation, such as bowel preparation. In addition, the treatment options should be outlined and explanations given, where necessary

Glossary

Abscess	A hole or cavity in tissue that is full of pus
Acute	Having a short and relatively severe course, i.e. a disease may be acute in nature
Analgesia	An agent that relieves pain
Asymptomatic	Without symptoms
Dysuria	Pain when passing urine
Fistulae	Singular – fistula. An abnormal passage or communication usually between two internal organs
Idiopathic	Unknown cause
Ischaemia	A decrease in blood supply to an organ or other structure
Lumen	A cavity or channel in a tube, e.g. the intestine
Palpate	Pressing lightly on the surface of the body to feel tissues underneath
Peritonitis	Inflammation of a thin membrane that covers the intestines
Prevalence	The proportion of individuals in a population having a disease
Prognosis	The forecast as to the probable outcome of a disease
Resection	Surgical removal of a portion or all of an organ or other structure, e.g. the intestine
Shock	There are many meanings of shock. Physiological shock usually means a dramatic reduction in blood flow, that if left untreated can lead to collapse, coma and death
Stoma	An opening made on the abdominal wall to divert faecal matter – can be permanent or temporary

reinforcement can be provided.

Issues concerning diet and fluid intake will need to be discussed, a high-fibre diet is usually recommended to help prevent and improve symptoms associated with diverticular disease. HCAs and APs may need to explain to the person the importance of preventing constipation and to avoid straining when attempting to pass a stool. The diet should be balanced and include at least five daily portions of fruit and vegetables as well as whole grains. Exercise is also recommended as this has been shown to help prevent the development of diverticular disease (Janes et al, 2006).

If the person experiences any unexpected severe pain and tenderness in the lower abdomen, if there is any blood in the stool and if they have a temperature then they should be encouraged to seek medical advice. If antibiotic therapy has been prescribed it is important that the person take the full course, even if after commencing therapy they begin to feel better.

Policy and procedure should be followed with regards

to the care of the person in the pre, peri and postoperative phase of care, if surgical intervention is required. Referral to specialist practitioners such as a stoma nurse may be required if surgery involves the formation of a stoma. The dietician may also need to be involved in the care and management of the person with diverticular disease and diverticulitis.

Conclusion

Understanding the pathophysiological changes associated with diverticular disease and diverticulitis can help HCAs and APs provide care that is safe and effective. There are a number of people who have diverticular disease, some are managed at home and some of them will require hospitalization. HCAs APs have a significant role to play in helping and assisting the person with diverticular disease, helping them to improve their health and wellbeing. **BJHCA**

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Key Points

- Diverticular disease is common.
- The signs and symptoms vary depending on each individual, a number of people with diverticular disease are asymptomatic.
- Diverticulitis is a condition that is associated with diverticular disease and if left untreated can be serious and in some cases life-threatening.
- Understanding the altered pathophysiology can help the healthcare assistants and assistant practitioners to provide care that is safe and effective.
- Eating a high fibre, well balanced diet and taking regular exercise may help to prevent diverticular disease.

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