Managing the complications of diverticular disease

The purpose of this article is to promote discussion of diverticular disease and describe the nursing support given to the patient in this case study over a five-week period. The aims of the nursing interventions were to maintain skin integrity and provide pain management and psychological support.

Case study
A patient who presented with peritonitis, rectal perforation and a diverticular abscess required emergency surgical intervention. This involved a Hartmann’s procedure and a temporary end-colostomy. During the months following surgery she experienced management problems with the colostomy as it was situated in a skin crease.

A large incisional hernia further complicated management and a home visit found her in very low spirits. The patient felt that her stoma was ‘closing over’ and in order to evacuate stool she had to massage the peristomal area. A hard, red and inflamed area was visible beneath the stoma, tracking around her left side. Her condition was discussed with her GP who felt an immediate hospital admission was appropriate.

Three abscesses subsequently developed; all producing faecal effluent with a decreased output via the stoma. Radiological investigation confirmed the development of a complex fistula around the stoma. Antibiotic therapy was commenced together with a low-residue diet.

Further surgical interventions were discussed after referral to a second consultant who took over her management. This resulted in reversal of her stoma and repair of the large incisional hernia using mesh. A multidisciplinary approach was taken throughout the admission.

Maintaining skin integrity
The presence of abscesses and fistula openings provide a challenge for the nurse to maintain skin integrity while protecting the skin from the corrosive action of the faecal effluent. Avoiding leakage is vital and controlling and collecting the drainage effectively will prevent unnecessary stress and anxiety to the patient (Forbes and Myers, 1996).

The patient was taking steroidal medication for an arthritic condition, which meant that her skin integrity was already compromised. Before the abscesses burst, adhesive remover was used to make it easier for her to remove her stoma bag. When two abscess sites developed in close proximity to the stoma, both producing faeces, one large stoma bag was applied; as it was not possible to apply separate ones. A post-op bag with window was selected in conjunction with adhesive washers, stomahesive paste and protective wafers.

The type and consistency of the drainage was assessed as this influences the type of appliance selected (Forbes and Myers, 1996). When the outbreak of further abscesses away from the stoma meant the first choice of pouch was no longer suitable, a large drainable pouch with a porthole was used with the stomahesive paste, cohesive washers and protective wafers.

The appliance that was used could cope with a wound area of 21cm x 21cm, and the contents could be drained and measured or attached to a night drainage bag. Attachment to a night drainage bag was necessary after the administration of a sodium picosulphate (Picolax) bowel cleansing solution in preparation for theatre. This avoided the frequent emptying that would have been necessary with the drain pouch, allowed the patient to sleep undisturbed and reduced the risk of the appliance bursting. The porthole allowed for modifications to be made while in situ.

After completion of the dressing change, the patient was advised to remain resting on the bed for at least 30 minutes before sitting up. Resting in bed helps promote adhesion (Forbes and Myers, 1996). The appliance was inspected regularly as there was always a possibility that a new abscess site had burst and so it was checked prior to the patient going on home leave. Three days appeared to be the longest period before a change was required.

Choosing the most appropriate time to change the appliance was important. The best time appeared to be mid-morning, after breakfast and at the patient’s bath time, as the fistulae were less active. Black (2000) suggests that the middle of the night is not appropriate when adequate time cannot be spent on the preparation and application of the appliance. If the appliance leaks, at any time, it should not be padded or patched but a new appliance should be applied (Black, 2000).

Pain management
The dressing changes were often quite painful so oral pain relief was administered prior to this process and adhesive remover was used. Although the area of in-
flammation was not noticeably larger or worse, the patient’s skin did become increasingly sore. After discussion with the pain control nurse specialist it was felt that gaseous analgesia using nitrous oxide and oxygen (Entonox) may be an effective solution. Entonox can offer a safe and effective alternative to morphine and pethidine during short procedures. Entonox was very effective. As it is designed for self-administration it gave the patient control over her pain with very few side effects. One of the side-effects she experienced was a dry mouth.

Entonox can only be inhaled when patients hold the mouthpiece to their lips or the mask to their face and breathe in. If patients become drowsy they will relax their grip on the handset and the gas flow will cease, preventing them from overdosing (Travis, 2000).

**Psychological support**

Using lavender oil in an aromatherapy fan helped the patient relax. Lavender reduces anxiety and is an effective air freshener. The smell of lavender increases the alpha waves at the back of the head – these are associated with relaxation (Holisticonline, 2002). Relaxing music was also played during the dressing change. Chlan and Greenleaf (2000) showed that music could alleviate anxiety and reduce discomfort during flexible sigmoidoscopy.

The dressing changes often took an hour, so along with the music, aromatherapy fan and Entonox, effective psychological support was given. This allowed a strong nurse-patient relationship to develop. The initial use of a care plan and a pre-cut appliance or template for use in an emergency by nursing staff also helped lift her confidence during a very difficult and painful time. Knowing that the drain pouch would remain intact for three days was important, as it gave the patient the confidence to go on home leave. This helped bolster her morale in the few weeks before she had surgery.

The multidisciplinary approach used ensured the patient was at the centre of the team and received holistic care.

**Understanding diverticulitis**

Diverticulitis is frequently seen in older people in developed countries and is thought to be due to a low-fibre diet (Atkin and Calvert, 1997). It can lead to perforation, with pericolonic infection, pelvic abscess formation with generalised or falciform peritonitis, fistula formation or obstruction (Sher et al, 1999). The presence of diverticular disease can increase colonic transit time due to abnormal muscle contractions and lead to total bowel obstruction (Teahon, 1999). Ten to 30 per cent of patients will be affected by complications such as haemorrhage and infection and 30 per cent of these patients will require surgical intervention (Sher et al, 1999).

Years of consuming a diet of refined foods with little or no fibre can result in chronic constipation and hypertrophy of the colonic muscle wall. Pouches, known as diverticula, form at weak points in the colonic muscle wall due to the increased intraluminal pressures (Taylor, 1997). Diverticular disease refers to this outpouching of the colonic wall. Diverticulitis refers to inflamed diverticula. Although diverticula can be found throughout the colon they are generally confined to the sigmoid colon (Sher et al, 1999). Diverticulosis is an abnormal state and refers to the presence of non-inflamed diverticula with or without symptoms.

**Acute diverticular disease**

Surgical intervention is recommended after more than one episode. Hartmann’s procedure is an option. The proximal end of the descending colon is brought to the surface as a colostomy. The distal end is oversewn and remains in the abdomen. The stoma is formed as it is considered too risky to anastomose the length of bowel (McCa hon, 1999).

Complications of diverticular disease include haemorrhage. In over 70 per cent of patients bleeding stops spontaneously and 75 per cent will not rebleed. A segmental colectomy should be performed on the remaining 25 per cent as subsequent haemorrhage is likely (Sher et al, 1999).

**Acute diverticulitis**

An acute episode of diverticulitis may be caused by:

- Obstruction of the neck of a diverticulum;
- Abrasion of thin-walled diverticulum;
- Micro-perforation of a diverticulum;
- Increased pressure leading to an invasive infection within the colonic wall.

Signs and symptoms of complicated diverticulitis include: fever, tachycardia, leukocytosis, pain, localised tenderness, voluntary guarding and occasionally a mass.

Treatment involves the administration of intravenous fluids, bowel rest and broad-spectrum antibiotics. No improvement from symptoms within 48 hours indicates the need for further investigations and therapy. Abscess, fistula, free perforation or obstruction are all complications that require urgent surgery. Uncomplicated acute diverticulitis that resolves quickly should be followed up in the outpatient department (Sher et al, 1999). Abscess is the most common complication of acute diverticulitis and may occur in the mesentery, abdomen, pelvis, retroperitoneum and scrotum. Signs and symptoms include an acute abdomen (acute abdominal pain) and some degree of septic shock (Sher et al, 1999). Abscesses are classified as follows:

- **Hinchley I disease** – limited to colon or mesentery;
- **Hinchley II disease** – extends into pelvis;
- **Hinchley III disease** – the rupture of a contained abscess or free perforation of a diverticulum into the peritoneal cavity resulting in purulent generalised peritonitis;
- **Hinchley IV disease** – faecal peritonitis.

Internal fistulae are caused as adjacent visera adhere to an inflamed colon (Sher et al, 1999). They are more common in men. There are different types of fistulae:

- **Colovesical** – the most common type (common symptom pneumaturia);
- **Colovaginal** – common symptom air or stool via vagina, usually diarrhoea;
- **Colovaginal** – common symptom air or stool via vagina, usually diarrhoea;

**REFERENCES**


For related articles on this subject and links to relevant websites see www.nursingtimes.net

**KEYWORDS**

- Diverticular disease
- Fistula
- Abscess