



THE MALONE ANTEGRADE COLONIC ENEMA IN THE MANAGEMENT OF INTRACTABLE FECAL INCONTINENCE IN CHILDREN

E-mail: hkcet@hongkong.com

INTRODUCTION

Fecal incontinence is a socially unacceptable disability. It is detrimental to psychosocial development of the affected children and often creates problems for the family.

It is extremely common for patients with congenital anorectal malformations and Hirschsprung's disease to develop constipation, severe fecal impaction and spurious diarrhoea. Besides, children with neurogenic bladder dysfunction frequent have co-existent bowel disorders result in constipation and fecal incontinence.

Conservative treatments consist of bowel training to establish a regular habit, control of stool consistency by diet and drugs, the use of purgatives or enemas and high retrograde anal washouts (Shandling & Gilmour, 1987) to produce regular colonic emptying, but a small number of patients still remain incontinence despite of all attempted treatments.

A recent advanced in surgery, antegrade colonic enema (ACE), or Malone's procedure (MACE) (Wheeler & Malone, 1991) is the combination of antegrade colonic washout and mitrofanoff non-refluxing catheterisable channel to produce a continent catheterisable colonic stoma. The antegrade washouts through this stoma would produce complete colonic emptying and thereby prevent soiling (Malone, Ransley & Kiely, 1990) (see Figure 1).

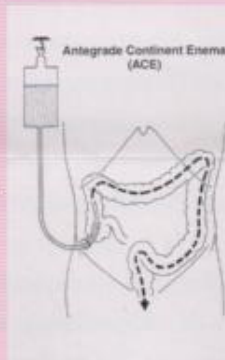


Figure 1

Pre-Operative Preparation

Motivation and consistency of the child and parents is the cornerstone to success, any reluctance or reservations need to be fully discussed before surgery. The child should be admitted to hospital at least 2 days before the operation to empty the bowel for surgery. This may involve taking an oral medication,

followed by rectal washout, and fluids only by mouth. If the child suffers from severe constipation, a longer stay in the hospital may be required.

Surgery

The ACE procedure involves the removal of appendix from large bowel with its own blood supply, and reimplanted in a non-refluxing manner into the caecum (see Figure 2). The other end is brought out on the abdominal wall as a continent stoma which looks rather like a belly button (see Figure 3). However, if the appendix is absent or unsuitable, an isolated short segment of tapered ileum will be used as a channel (MONTI Method) (see Figure 4). MACE stoma can be opened at the umbilicus or located at the right lower quadrant of the abdomen. The stoma can also be fashioned with skin flaps using the 'VQZ' techniques (see Figure 5).

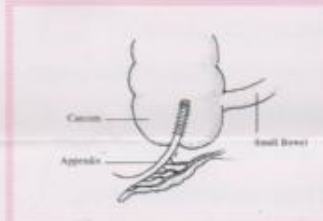


Figure 2



Figure 3

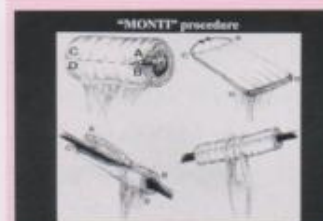


Figure 4



Figure 5

Post-Operative Care

The non-refluxing continent stoma provides an access to the proximal colon by a narrow catheterisable channel. A catheter will be left in situ for two weeks to maintain the stoma's patency, but washouts can be



Figure 6

started one day after normal diet resumed without the removal of catheter. Teaching the child and family can be commenced 3-10 days after surgery. The MACE stoma will be dilated with a nelaton catheter once daily by patients or parents after operation for 2-3 months to prevent stenosis. Children of six to seven can be taught to do the procedure independently.

Washout and Enema Regime

Washouts will start approximately 3 - 10 days post-operatively. A soft catheter is passed through the MACE stoma and either saline, at a volume of 20-30 ml per kilo of body weight, or a dilute phosphate enema, or a combination of both, is introduced (see Figure 6). The regime will be worked out according to the patient's age, size and response to the enema. It is also possible to use tap water with one teaspoonful of salt per pint as normal saline at home (Hancock, 1994). The bag of irrigation saline is hung at a height of four feet above the toilet and is delivered by an intravenous giving set. The contents of the bowel is evacuated into the toilet. The whole procedure takes an average of 30-45 minutes. An individual regime with different combinations of enema solutions, medications including bulk-forming agents and / or anti-motility agents and dietary manipulation will be developed for each patient.

In general, it may require adjustment over the first 1- 2 weeks to achieve rapid and complete emptying. And it will take approximately 1 month to achieve a predictable routine. It is important to keep a diary of events, including washout solution given, result, continence record and symptoms such as abdominal pain or nausea.

Usually, the patients need to perform washout once daily to remain completely clean, but some of them only need MACE washout once every three days or alternate day. Regular follow up, constant reassessment and adjustment or modification of regime is necessary, particularly over the first month.

What to do if:

1. Cannot pass the catheter

It is common for the stoma to shrink a little after surgery. This can occasionally result in difficulty passing the catheter. It is important to dilate the stoma every day even if the washout is not due. If problems do arise, use a smaller tube, then remove and attempt to introduce the usual size catheter.

2. Abdominal pain / vomiting

Some patients experience abdominal discomfort and nausea with the first washouts. This usually resolves when they adapted to the procedure. If problem continues, contact the link nurse / doctor as it may be related to the volume and strength of the washout solution.

3. No result / delayed result / leakage between washouts

This often occurs in the first few weeks while establishing a routine. Contact the link nurse for advice about altering the washout regime. Never repeat the procedure within 24 hours if no result is obtained.

4. Gastroenteritis (Diarrhoea and Vomiting)

Do not perform the washout and seek advice from the hospital before re-commencement of the washout regime.

DISCUSSION

The problem of faecal incontinence and soiling is devastating both for the child and family. In Chinese community, this may even become a 'taboo' and 'hopeless' subject for which most patients or parents would not mention and the physicians often tend to neglect. The invention of MACE procedure allows the patients to clean their bowel without performing any rectal maneuver which may be unpleasant. This new control undoubtedly leads to improve the quality of life.

Moreover, some patients with spina bifida are unable to cope with retrograde enemas because of immobility and lax perineal muscles. The washouts can be given while the child is sitting on the toilet so a wheelchair bound patient can carry out the procedure alone and thus become completely independent. Many children have increased in confidence, improved lifestyle and are able to do many activities that had not been possible previously, such as swimming.

Attitude can affect outcome, fear or distaste may lead to shame and frustration which may perpetuate incontinence. To achieve success, patient selection is very important. The child and family should be encouraged to voice out any problems and must want to use this method for continence management. 'The success of any bowel management programme hinges on the motivation of

the child and family (Rogers, 1998).¹

CONCLUSIONS

The MACE principle can successfully be employed in managing children with neurogenic bowel dysfunction and fecal incontinence. Once a functioning conduit is created, patient acceptance, compliance and satisfaction is very high.

In fact, there are internists, surgeons and researchers in different parts of the world who are working hard to find different ways to improve the quality of life for children who suffer from faecal incontinence (Pena, 1995). However, there is not enough research going on and that this problem deserves far more attention and effort from both the medical and surgical field.

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By: *Frances Sit*
Nurse Specialist, PWH

Course / Seminar Information

HKCET Stoma Care Course

Date : 24/11, 1/12, 8/12, 15/12, 22/12, 29/12 (6 evening, 12 contact hours)

Venue : Lecture theatre, 10/F, New Wing, Kwong Wah Hospital

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Speaker : ETs and Surgeons

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Enquiry : Ms Loretta To (Tel : 9615 9945 10am - 6 pm)

Wound Care Seminar

Speaker : Ms Jan Rice, Wound Care Consultant, Wound Care Foundation of Australia

- Topic : 1. Nursing Management of Skin Grafts and Reconstructive Flap Repair
2. Wound Management for Practice Nurses
3. Wound Care in the Aging Patients

Date : 11th October 1999

Time : 18:30 to 20:30 (1.5 contact hours)

Venue : Lecture Theatre ,LG2, School of Nursing, PMH
Sponsored by Johnson & Johnson Med. Co.

Fee : \$70 (Non-HKCET members),
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Enquiry : Ms. May Mak (Tel : 2738 6108)

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Principal Instructor : Dr Paul Abrams, Secretary General,
International Continence Society

For information, please contact Dr Leung Man Fuk
through phone : 2379 4822

Short Course in Continence Care

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