

The antegrade continence enema procedure in the setting of acute appendicitis

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Abstract The antegrade continence enema (ACE), known as the ACE procedure, has gained popularity over the past two decades in the treatment of refractory fecal incontinence. This case report describes an acutely inflamed appendix being used for an ACE procedure. To my knowledge, this has not previously been documented in the literature.

Keywords: ACE, antegrade continence enema, appendicitis, fecal incontinence

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INTRODUCTION

The antegrade continence enema (ACE) is widely used in the pediatric population for the management of fecal dysfunction.^[1] In 1990, Malone *et al.* described using the appendix to create a catheterizable stoma to improve the management of fecal incontinence secondary to neuropathic bowel.^[2] Since then, it has been used in chronic constipation, anorectal malformations, and Hirschsprung's disease, among other conditions. Overall success rates as high as 90% have been achieved.^[3]

There is an abundance of subjective evidence,^[4,5] and more recently, objective evidence^[6] showing that an ACE procedure leads to an improvement in the quality of life. This is largely due to the independence it provides to those who are successful in achieving continence. In this case, we describe an ACE procedure performed using an acutely inflamed appendix.

CASE REPORT

A 16-year-old boy underwent an ACE procedure for neuropathic bowel secondary to myelomeningocele. One year prior to surgery, he was diagnosed with ulcerative proctitis based on proctoscopy, colonoscopy, and biopsy. Colonoscopy at that time also showed pus at the appendiceal orifice with an erythematous base. He was asymptomatic and therefore was not treated with antibiotics. He was managed on Willis washouts three times per week.

He was electively admitted for the ACE procedure and was asymptomatic at the time. Preoperatively, he was afebrile with a normal white cell count. Intraoperatively, the tip of the appendix was noted to be very inflamed. The appendix was mobilized on its mesentery, and the tip was excised for histology. The appendix was flushed, reversed, and tunneled into the cecum. The distal end was brought into a VY incision in the right iliac fossa and a 10-Fr feeding tube was left *in situ*.

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Histology of the appendiceal tip showed acute suppurative transmural appendicitis with visceral peritonitis.

Postoperatively, he was given 5 days of intravenous co-amoxiclav, gentamicin, and metronidazole as is normal practice post an ACE procedure. He had an uncomplicated postoperative course and was discharged home on 3 days of oral co-amoxiclav.

He was followed up for a further 2 years before progressing to adult services.

DISCUSSION

This case demonstrates that despite histologically confirmed appendicitis, the appendix can still be utilized as part of an ACE procedure. We recommend flushing the appendix intraoperatively with saline. Post an ACE procedure, patients with myelomeningocele are routinely given a 5-day course of triple antibiotics (co-amoxiclav, gentamicin, and metronidazole). In the setting of acute appendicitis, a prolonged course can be considered depending on the clinical status of the patient.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and

other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Graf JL, Strear C, Bratton B, Housley HT, Jennings RW, Harrison MR, *et al*. The antegrade continence enema procedure: A review of the literature. *J Pediatr Surg* 1998;33:1294-6.
2. Malone PS, Ransley PG, Kiely EM. Preliminary report: The antegrade continence enema. *Lancet* 1990;336:1217-8.
3. Peeraully MR, Lopes J, Wright A, Davies BW, Stewart RJ, Singh SS, *et al*. Experience of the MACE procedure at a regional pediatric surgical unit: A 15-year retrospective review. *Eur J Pediatr Surg* 2014;24:113-6.
4. Hoekstra LT, Kuijper CF, Bakx R, Heij HA, Aronson DC, Benninga MA. The Malone antegrade continence enema procedure: The Amsterdam experience. *J Pediatr Surg* 2011;46:1603-8.
5. Tiryaki S, Ergun O, Celik A, Ulman I, Avanoglu A. Success of Malone's antegrade continence enema (MACE) from the patients' perspective. *Eur J Pediatr Surg* 2010;20:405-7.
6. Har AF, Rescorla FJ, Croffie JM. Quality of life in pediatric patients with unremitting constipation pre and post Malone antegrade continence enema (MACE) procedure. *J Pediatr Surg* 2013;48:1733-7.