

Non-operative treatment of children with simple appendicitis: long-term follow-up (5 years) in a prospective cohort study

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Dear Editor

Pilot studies have shown that non-operative treatment with antibiotics (NOT) has a high initial success rate in children with simple appendicitis^{1,2}. However, few data exist on the long-term outcomes, which are particularly relevant as patients may over time undergo delayed appendicectomy for recurrent appendicitis or abdominal complaints. After 1 year, it is estimated that approximately three of four children with NOT for simple appendicitis have avoided an appendicectomy¹.

Here, the authors re-evaluated 49 children who previously received NOT for acute simple appendicitis in a feasibility study for the APAC (Antibiotics versus Primary Appendectomy in Children) trial, an ongoing randomized trial comparing NOT with appendicectomy in children with simple appendicitis; its methods, short- and medium-term results were published in 2015² and 2018³. Children aged 7–17 years with ultrasound-confirmed simple appendicitis without a faecalith were treated with intravenous antibiotics for 48–72 h, continued orally at home for 5 days. In the event of clinical deterioration, insufficient recovery or recurrent appendicitis, appendicectomy was performed. To assess long-term outcomes after NOT, data on delayed appendicectomies and complications were collected during telephone follow-up interviews (October 2019); in addition, electronic health records, including histopathological reports, were investigated. All events were scored separately by three authors according to type, severity, and relationship to appendicitis or its treatment, using preset definitions.

In total, 47 of 49 children could be contacted for follow-up at a median of 5.4 (range 3.9–7.1) years after initial treatment. Appendicectomy had not been performed in 33 of 47 children (70 (95 per cent c.i. 56 to 81) per cent) (Fig. 1). Of the 14 children who did undergo appendicectomy, four (9 (3 to 20) per cent) were classified as non-responders (failure of NOT within 7 days after start

of treatment), and 10 (21 (12 to 35) per cent) as having delayed appendicectomy. Histopathological examination after the delayed appendicectomies showed simple appendicitis (7), non-inflamed appendices (2), and chronic inflammation with fibrosis (1). In none of the children who had delayed appendicectomies was complex appendicitis diagnosed. No complications occurred past 1 year, including children who underwent delayed appendicectomy.

The long-term rates of delayed appendicectomy are similar to those in two^{4,5} of three studies that reported long-term outcomes after NOT in children. A third study⁶, a 5-year follow-up of a pilot RCT, reported a higher total appendicectomy rate, with 11 of 24 children randomized to NOT undergoing appendicectomy. However, histopathological examination showed acute appendicitis in only four of the 24 children randomized to NOT. The authors suggested that this could be the result of the novelty of NOT resulting in more liberal indications for surgery⁶. In the present cohort, only one patient had an appendicectomy after more than 2 years, which is similar to findings of the previously mentioned studies^{4–6}, indicating that the need for delayed appendicectomy more than 2 years after the initial treatment is rare (0–5 per cent).

The goal of NOT is to prevent appendicectomy, which would otherwise be done in all children. The exposure to anaesthesia, surgical stress, and potential complications are avoided in most patients. However, the authors do not consider NOT to be a replacement for appendicectomy, but rather part of a step-up approach, preserving surgery for children who actually need it. They are currently awaiting the results of several ongoing RCTs for definitive evidence on the medium-term (1 year) efficacy of NOT compared with surgery, including other relevant outcomes, such as quality of life, disability days, and costs. From the results of the present study it can be concluded that the long-term

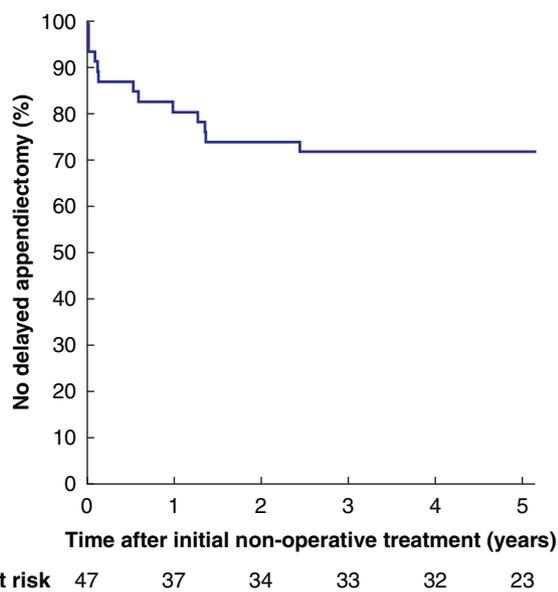


Fig. 1 Kaplan–Meier curve for time to delayed appendectomy after non-operative treatment failure

results after NOT for children with simple appendicitis seem promising, possibly avoiding appendectomy in 70 per cent of children after a median follow-up of 5 years.

Disclosure. The authors declare no conflict of interest.

References

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European Colorectal Congress

28 November – 1 December 2022, St.Gallen, Switzerland

Monday, 28 November 2022

09.50
Opening and welcome
Jochen Lange, St.Gallen, CH

10.00
It is leaking! Approaches to salvaging an anastomosis
Willem Bemelman, Amsterdam, NL

10.30
Predictive and diagnostic markers of anastomotic leak
Andre D'Hoore, Leuven, BE

11.00
SATELLITE SYMPOSIUM
ETHICON
PART OF THE Johnson & Johnson FAMILY OF COMPANIES

11.45
Of microbes and men – the unspoken story of anastomotic leakage
James Kinross, London, UK

12.15
LUNCH

13.45
Operative techniques to reduce anastomotic recurrence in Crohn's disease
Laura Hancock, Manchester, UK

14.15
Innovative approaches in the treatment of complex Crohn Diseases perianal fistula
Christianne Buskens, Amsterdam, NL

14.45
To divert or not to divert in Crohn surgery – technical aspects and patient factors
Pär Myrelid, Linköping, SE

15.15
COFFEE BREAK

15.45
Appendiceal neoplasia – when to opt for a minimal approach, when and how to go for a maximal treatment
Tom Cecil, Basingstoke, Hampshire, UK

16.15
SATELLITE SYMPOSIUM
Medtronic
Further.Together

17.00
Outcomes of modern induction therapies and Wait and Watch strategies, Hope or Hype
Antonino Spinelli, Milano, IT

17.30
EAES Presidential Lecture - Use of ICG in colorectal surgery: beyond bowel perfusion
Salvador Morales-Conde, Sevilla, ES



18.00
Get-Together with your colleagues
Industrial Exhibition

Tuesday, 29 November 2022

9.00
CONSULTANT'S CORNER
Michel Adamina, Winterthur, CH

10.30
COFFEE BREAK

11.00
SATELLITE SYMPOSIUM
INTUITIVE

11.45
Trends in colorectal oncology and clinical insights for the near future
Rob Glynn-Jones, London, UK

12.15
LUNCH

13.45
VIDEO SESSION

14.15
SATELLITE SYMPOSIUM
BD

15.00
COFFEE BREAK

15.30
The unsolved issue of TME: open, robotic, transanal, or laparoscopic – shining light on evidence and practice
Des Winter, Dublin, IE
Jim Khan, London, UK
Brendan Moran, Basingstoke, UK

16.30
SATELLITE SYMPOSIUM
Takeda



17.15
Lars Pahlman lecture
Søren Laurberg, Aarhus, DK

Thursday, 1 December 2022
Masterclass in Colorectal Surgery
Proctology Day

Wednesday, 30 November 2022

9.00
Advanced risk stratification in colorectal cancer – choosing wisely surgery and adjuvant therapy
Philip Quirke, Leeds, UK

09.30
Predictors for Postoperative Complications and Mortality
Ronan O'Connell, Dublin, IE

10.00
Segmental colectomy versus extended colectomy for complex cancer
Quentin Denost, Bordeaux, FR

10.30
COFFEE BREAK

11.00
Incidental cancer in polyp - completion surgery or endoscopy treatment alone?
Laura Beyer-Berjot, Marseille, FR

11.30
SATELLITE SYMPOSIUM
EVOLUZIONE
DISPOSITIVI MEDICI

12.00
Less is more – pushing the boundaries of full-thickness rectal resection
Xavier Serra-Aracil, Barcelona, ES

12.30
LUNCH

14.00
Management of intestinal neuroendocrine neoplasia
Frédéric Ris, Geneva, CH

14.30
Poster Presentation & Best Poster Award
Michel Adamina, Winterthur, CH

15.00
SATELLITE SYMPOSIUM
OLYMPUS

15.45
COFFEE BREAK

16.15
Reoperative pelvic floor surgery – dealing with perineal hernia, reoperations, and complex reconstructions
Guillaume Meurette, Nantes, FR

16.45
Salvage strategies for rectal neoplasia
Roel Hompes, Amsterdam, NL

17.15
Beyond TME – technique and results of pelvic exenteration and sacrectomy
Paris Tekkis, London, UK

19.30
FESTIVE EVENING

Information & Registration www.colorectalsurgery.eu