

Non-Operative Treatment of Uncomplicated Acute Appendicitis: About 94cases

N.Sididris⁽¹⁾, K Hail⁽²⁾, K.Kermiche⁽¹⁾, S.Benkaid⁽¹⁾, Y.Hamoudi⁽¹⁾, K.Hablal⁽¹⁾,
H Chatter⁽¹⁾, Y. Mehal, K. Magmoun, A.Benmechta, R Fathallah, F .
Hacib, D.Ouldouali, R. Selamna⁽¹⁾

¹(Djilali BELKHENCHIR ex Birtraria, Algiers, Algeria)

²(Hospital University of Mustapha, Algiers, Algeria)

Abstract:

Objective: To determine the feasibility of the non-operative treatment of acute uncomplicated appendicitis in our work context, its benefits, its risks; as well as monitoring and development.

Materials and Methods: This is a prospective uni-centric observational study carried out at Birtraria "Algiers" hospital over a period of one year. We treated 94 patients hospitalized for acute uncomplicated appendicitis and returning as part of non-operative treatment according to well established clinical, biological and radiological criteria.

Results: non-operative treatment of acute appendicitis was effective in 97.5% of patients. Only one patient was operated on in the same hospital; However, there is a recurrence rate of 9.5% after one year of surveillance

Key Word: Uncomplicated acute appendicitis – non-operative treatment.

Date of Submission: 14-02-2020

Date of Acceptance: 29-02-2020

I. Introduction

Acute appendicitis is the most frequent surgical emergency in children and adults [1], the risk of having acute appendicitis is 8.6% (male) and 6.7% (female) with 12% and 23% risk of emergency appendectomy respectively [2]

For over 100 years, appendectomy has been the standard treatment for the management of these acute appendages (Reginald Fitz 1886-Charles McBurney 1889), however this surgery is not without risk or complications.

Uncomplicated appendicitis is much more common than gangrenous or perforated appendicitis; in recent years several studies have advocated a conservative treatment based on antibiotic therapy alone [3]

The effectiveness of antibiotic treatment alone in the treatment of intra-abdominal infections (sigmoid diverticulitis, abscess on crohn's disease) as well as readmissions after appendectomy for infection of the operative site or for occlusion on the bridge, motivated the non-operative approach of the acute appendicitis whose main objective is to select patients who can respond to antibiotic treatment alone.

II. Material And Methods:

388 patients were treated in the general surgery department of Birtraria Hospital between October 2018 and December 2019 for acute appendicitis. 291 patients 75% were operated immediately after diagnosis, 97 patients 25% were selected by an Alvarado score (tab 1) between 3 and 7 inclusive and an appendage whose thickness is less than or equal to 10 mm on ultrasound with absence signs of complications "abscess, presence of stercholites" to benefit from antibiotic treatment; Among these selected patients; 3 were excluded from the non-operative protocol for non-consent.

There were 45 (47.87%) men and 49 (52.15%) woman patients (ratio 0.91). The median age was 30.31 +/- 9.2 years with extremes ranging from 18 to 68 years. Pain in the right iliac fossa was present in all our patients (100%) associated with nausea and / or vomiting (78.5%) and a temperature above 37.5°C in 43.6 % of cases. Defense in the right iliac fossa was present in 1/3 of our patients (32.9%). Biologically, a leukocytosis did not exceed 18,000 elements / mm³ was observed in 45% of the cases, with a CRP positive in 43.5% of the cases whose rate did not exceed 180 mg / l.

All of our patients underwent an abdominal ultrasound which confirmed the diagnosis in 92 cases (97.8%). The diameter of the appendix on imaging was between 6.4 mm and 10 mm with an average of 8.2 mm, with infiltration of periadicular fat in 50 cases (53.1%) and fluid effusion in 10 cases (10.6%). 02 patients (2.2%) required an abdominal scanner to confirm the diagnosis.

90 patients (95.7%) benefited from a double antibiotic therapy combining Cefazoline and Metronidazole by the venous route during the first 03 days, the 04 remaining patients (4.3%) were treated with Ciprofloxacin associated with Metronidazole, this antibiotic therapy was continued for 12 days in peros.

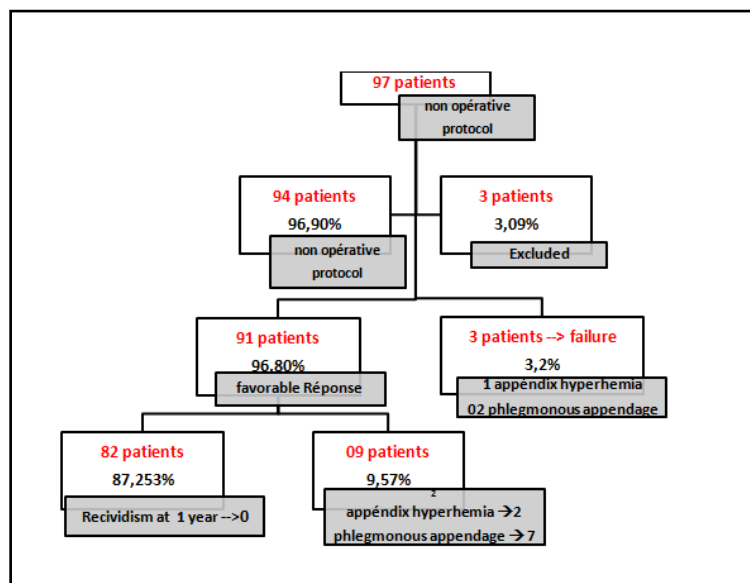
All our patients were hospitalized for 3 days and then benefited from strict biological and radiological clinical monitoring on the 5th - 15th and on the 30th day then at 3 - 6 and 12 months.

Alvarado score	
Feature	Score
Migration of pain	1
Anorexia	1
Nausea	1
Tenderness in right lower quadrant	2
Rebound pain	1
Elevated temperature	1
Leucocytosis	2
Shift of white blood cell count to the left	1
Total	10

Tab1: ALVARADO SCORE

III. Result:

91 patients (97.5%) responded favorably to antibiotic treatment and 03 patients (2.5%) underwent appendectomy after failure of medical treatment during the same hospitalization, it was a gangrenous appendage and 02 phlegm nous appendages. During the monitoring period we re-hospitalized 09 patients (9.89%) for a resumption of appendicle symptomatology, between the 2nd and the 6th month, all these patients underwent an appendectomy whose exploration per operative had found 02 appendages hyperemia's and 07 phlegmonous (tab 2).



Tab 2 :Result of non-operative treatment of uncomplicated acute appendicitis

IV. Discussion:

Appendectomy has always been considered as the standard treatment for acute appendicitis, allowing healing and avoiding progression to more serious complications, namely perforation and spread of infection[3].

If appendectomy is considered a radical treatment, it is not without complications. Essentially the infection of the wall, and the occlusion on the bridle late, The overall rate of these complications is respectively 8.7% and 11.1% [4-5].

Several studies have evaluated the effectiveness of antibiotic therapy alone as a conservative treatment for uncomplicated acute appendicitis by comparing the rate of recurrences with the rate of complications after appendectomy.

In 2006 Sturdy [6] published a randomized trial including 252 patients treated for uncomplicated acute appendicitis by comparing 02 patient groups, the first group of 124 patients underwent appendectomy and the second of 128 patients treated medically; The complication rate was 14% in the first group, and the efficacy in the second group was 86% with recurrence rate 14% in one year. In 2011 Vons [7] compared 02 groups of patients with uncomplicated acute appendicitis who underwent appendectomy versus medical treatment and concluded that the effectiveness of antibiotic treatment was 68%. These studies were limited by the presence of several biases that could influence the results, so inclusion was based on poorly defined clinical and biological factors and rarely on radiological confirmation. The comparison between the 2 groups, appendectomy versus antibiotic treatment alone is difficult because the recurrence cannot be seen in the surgery group and the infection of the operating site cannot be seen in the medical treatment group, moreover a period of one year seems insufficient to assess recurrences.

Our work aimed to assess the effectiveness and safety of antibiotic treatment alone in the treatment of uncomplicated acute appendicitis while avoiding certain limitations criticized in other studies therefore our study was not comparative with criteria of biological and radiological clinical inclusion well defined by the Alvarado score between 03 and 07 and exclusion factors such as the presence of stercolite and wall thickness greater than 10 mm which are considered as risk factors for recurrences [7-8] By comparing our results with the data in the literature (tab 3) our study presented fewer failures at 1 year; thus the efficacy of antibiotic treatment alone, which varies between 60% to 85% according to the data in the literature, was 87.23% in our study (table 02), without increasing the risk of complications specific to acute appendicitis including abscesses and peritonitis.

Authors	N patients	Diagnostic mode	Failure rate	Recurrence rate 1 year	Success rate 1 year	
Eriksson(1995)	20	20	clinical	5%	35%	60%
Styrud(2006)	128	128	clinical	14%	14%	74%
Hansson(2009)	106	106	Echo or scanner	8,2%	13,9%	78%
Malik(2009)	40	40	Alvarado Score	5%	10 ,5%	85%
Vons(2011)	120	120	TDM	12%	26%	68%
Our study « 2019 »	94	94	ALVARADO Score echography	3,1%	9,5%	87,3%

Tab 3 : Results Of Different Studies : antibiotic treatment Of uncomplicated acute appendicitis

V. Conclusion

Appendectomy remains the standard treatment for acute appendicitis, and medical treatment with antibiotics alone may be offered as first-line treatment for patients with well-selected uncomplicated acute appendicitis. This conservative treatment makes it possible to avoid surgery and its complications for more than two thirds of patients, while knowing that its failure does not increase morbidity.

VI. Perspective

The non-operative treatment of acute appendicitis has always been a subject of debate, several studies have proven its effectiveness among others the establishment of inclusion criteria well codified by clinical biological and radiological scores as well as a duration of monitoring up to at 03 to 05 years will achieve better results.

References

- [1]. Stewart B, Khandouri P, McCord C, Ohene-Yeboah M, Uranues S, Vega Rivera F, et al. Global disease burden of conditions requiring emergency surgery. *Br J Surg*. 2014 ; 101 (1) : e 9-22
- [2]. DeFrances CJ, Podgornik MN : National hospital discharge survey. *Adv Data* 2004, 2006(371) : 1-19.
- [3]. Wilms IM, de Hoog DE, de Visser DC, Janzing HM. Appendectomy versus antibiotic treatment for acute appendicitis. *Cochrane Database of Systematic Reviews*. 2011; 9(11): CD008359.

- [4]. Nakhamiyayev V, Galldin L, Chiarello M et al. Laparoscopic appendectomy is the preferred approach for appendicitis: a retrospective review of two practice patterns. *Surgical Endoscopy*. 2010; 24(4): 859-64.
- [5]. Guller U, Hervey S, Purves H et al. Laparoscopic versus open appendectomy: outcomes comparison based on a large administrative database. *Annals of Surgery*. 2004; 239(1): 43-52.
- [6]. Appendectomy versus antibiotic treatment in acute appendicitis. a prospective multicenter randomized controlled trial. Styrud J1, Eriksson S, Nilsson I, Ahlberg G, Haapaniemi S, Neovius G, Rex L, Badume I, Granström World J Surg. 2006 Jun;30(6):1033-7
- [7]. Vons C, Barry C, Maitre S et al. Amoxicillin plus clavulanic acid versus appendicectomy for treatment of acute uncomplicated appendicitis: an open-label, non-inferiority, randomized controlled trial. *Lancet*. 2011; 377(9777):1573-9.
- [8]. Sakorafas GH, Sabanis D, Lappas C et al. Interval routine appendectomy following conservative treatment of acute appendicitis: Is it really needed?. *World J Gastrointest Surg*. 2012; 4(4): 83-6.

N.Sididris,etal.“Non-Operative Treatment of Uncomplicated Acute Appendicitis: About 94cases.” *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(2), 2020, pp. 52-55.