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MANAGEMENT OF ACUTE APPENDICITIS OPERATIVE V/S CONSERVATIVE

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Abstract:

One of the most important cause of acute abdominal pain in emergency patients is acute appendicitis. The goal of management of acute appendicitis is early diagnosis and prompt operative intervention. Acute appendicitis encompasses a wide spectrum of clinical presentations from the uncomplicated form to the one with diffuse peritonitis. While diffuse peritonitis remains an undisputed indication for surgery whereas conservative management is also an alternative option for some uncomplicated cases.

Diagnosis of appendicitis mainly depends on clinical findings but the decision, whether to operate, observe or perform further work up is not always clear.

The aim of this study is to furnish insight on the question of selection of patients to either approach

Key words: *Conservative treatment, appendicitis surgery, antibiotics*

Introduction :

One of the most common causes of acute abdominal emergency is appendicitis. Life time risk of appendicitis is 7-8 % and the Highest incidence found in the second decade of life.[1,2] Most patient with pain in right lower quadrant do not have acute appendicitis. Several scoring systems like Alvarado score, the Raja Isteri Pergiran Anak saleha appendicitis (RIPASA) score and the acute inflammatory response (AIR) are developed to diagnose the appendicitis. The decision whether to operate or not is the key in the management of acute appendicitis. Historically, appendectomy has been the gold standard for the treatment of acute appendicitis. Surgery is performed either by open or laproscopice approach. However this concept has been challenged in recent years with the advent of newer antibiotic therapy and after evidence based studies it reveals that morbidity is less with non operative strategy.[3]

Proponents of conservative approach argue that recurrent appendicitis seems to be a rather infrequent event and milder in presentation,[4] and those who require appendectomy did not experience significant canplications.[5]

Having this in consideration, it is important to weigh the benefits and potential disadvantages of both treatment options, keeping in mind that appendectomy itself carries risk and even mortality.[6] In this setting, it would be beneficial to develop instruments and skill to select patients to either approach.[7]

The aim of this study is to furnish insight to develop criteria to select patients for conservative treatment and operative treatment by clinical, radiological & laboratory evaluation.

Diagnosis: Diagnostic criteria for acute appendicitis is clinical exam, imaging & laboratory investigations. The typical presentation include symptoms such as abdominal pain with migration to right iliac fossa (RIF), anorexia, nausea and vomiting and signs such as rebound tenderness in the RIF and fever.

Several scoring systems are developed in order to facilitate, early diagnosis of acute appendicitis with the Alvarado, the RIPASA and the AIR score being the most used in the clinical practical. (Table 1) They are also applicable for risk stratification, which is a key recommendation of emergency surgical care guidelines.[8,9]

Table – 1
Clinical scores in acute appendicitis

	Alvarado	AIR	RIPASA
Gender			
Female			0.5
Male			1
Age			
< 40 years			1
> 40 years			0.5
Symptoms			
Migration of pain	1		0.5
Anorexia	1		1
Nausea	1		
Vomiting		1	
Nausea and vomiting			1
RIF pain		1	0.5
Symptoms < 48 h			1
Symptoms > 48 h			0.5
Signs			
Rebound pain	1		1
Tenderness in right lower quadrant	2		1
Rebound tenderness or muscular defense			
-Light		1	
-Medium		2	
-strong		3	
Guarding			2
Rovsing's sign			2
Temperature			
> 37.3 0C	1		
> 38.5 0C		1	
37 0C-39 0C			1
Laboratory values			
Leukocytosis	2		1
White blood cell count			
10.0-14.9 X 109/L		1	
> 15.0 X 109/L		2	

Shift of white cell count to the left	1		
Polymorphonuclear leucocytes			
70%-84%		1	
>85%		2	
C-reactive protein (CRP) concentration			
10-49 g/L		1	
> 50 g/L		2	
Negative urinalysis			1
Other			
? Foreign national registration identity card			1

The Alvarado score is a ten point scoring system consisting of the following items: migration of pain, anorexia, nausea, rebound pain, elevated temperature, shift of white blood count to the left etc.

This score also encompasses management strategy with proposing to discharge those patients with scoring> 5, to keep under vigilance those scoring five or six and to operate those with score over six.

The RIPASA system includes several factors which are absent in the Alvarado score namely age, gender and duration of symptoms.

The AIR score is based on the same principles of the Alvarado score.

Imaging is an important part in the diagnosis of acute appendicitis as well. CT scan is classically considered best radiological modality for this condition. Ultrasound is less accurate than CT to diagnose the appendicitis.

In tams of laboratory parameters, elevation of white blood cell count with a left shift, elevation of CRP, granulocyte colony stimulating factor and cal-prolactin are some of the markers warranting consideration.[10]

Material and Method

42 patents 25 male and 17 female between the age group of 26 to 64 years were included in the study. It is multi centric study conducted during 2012 to 2014 with 18 month follow up period.

29 Patients were managed conservatively and in 13 patients appendectomy was done.

In 6 patients open appendectomy was done and 7 patients laproscopic appendectomy was performed.

Surgical Management:

Appendectomy has been considered the gold standard in the treatment of acute appendicitis for many years. Mc. Burney emphasizes the importance of appendectomy in 1891.[11] His view based on the assumption that in absence of surgical intervention, acute appendicitis will always lead to perforation. This traditional view has been recently challenged by evidence suggesting that perforated and non perforated appendicitis may be distinct entities rather that sequential events.

Now a days laprosopic appendectomy is gaining more acceptance than open appendectomy. However there are some concerns associated with the laprosopic approach namely, longer operative time, higher costs and increased intra abdominal abscess formation. However xiao et al. reported a lower incidence of overall and surgical site infection including intra abdominal abscess formation rate.[12]

Conservative Management:

There are several studies showing that in cases of early uncomplicated acute appendicitis medical treatment with antibiotics may lead to resolution in the majority of cases.[6,13,14] The first randomized study was published in 1995 concluding that antibiotic treatment in patients with acute appendicitis was as effective as surgery.[15] In 2008, Mason et al. concluded that up to 70 % of patients could be spared from an appendectomy.[16] In a more recent analysis, antibiotics were associated with less morbidity and no increased risk of perforation even when an appendectomy had been delayed by this initial approach which is one of the main concerns associate with this strategy. These authors propose antibiotic treatment associated with proper vigilance and supportive care can be employed in uncomplicated appendicitis reducing the number of unnecessary surgeries and associated complications.

Furthermore hospital length of stay could be reduced as patients were able to maintain antibiotic treatment orally after discharge.

A considering the rate of failure, the randomized clinical trial described the need for delayed appendectomy in up to 48 % of patients initially treated with antibiotic.[5] A recent study evaluating the rate of recurrence concluded that most patients randomized to antibiotic treatment did not require an appendectomy during the first year of follow up and those who required surgery did not experience significant complications.[5]

Hypothetically surgery can treat acute appendicitis in 100 % of cases with the some mortality and morbidity rate.

Acute appendicitis successfully

treated by antibiotics still remains a potential modality of appendicitis. On the other hand post operative wound infections and post appendectomy bowel obstruction even after 30 years from appendectomy have been described. What is the most important issue for the single patients? probably that is not a right answer to this dilemma.

The antibiotics offer the opportunity to treat acute appendicitis conservatively even when surgical resources are not easily available as in developed counties and remote places.

Conclusion

The comparison of surgery and antibiotic conservative therapy is still a challenging issue. The comparison of antibiotic and surgery needs an homogenous and most objective patient selection and guidelines.

The peculiar characteristics of single treatment cannot be scientifically compared.

There are in our opinion after establishing and institutional validated clinical score, uncomplicated appendicitis can be safely and successfully treated by antibiotics conservatively in hospital scenario if the patient accepts pros and cons and is correctly counseled.

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