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### Original Article

## Appendicular Mass: A Conservative Approach

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### Abstract

#### Introduction

Appendicular mass is one of the most common complications following acute appendicitis and seen in 2-6% of the patients. The treatment of appendicular mass is controversial with three general approaches. The aim of this study is to evaluate outcome of conservative approach.

#### Material & Methods

A retrospective analysis of the patients managed with appendicular mass from 1st January to 31<sup>st</sup> December 2014 was carried out in NMCTH, Biratnagar. A total of 173 patients with diagnosis of appendicular mass admitted in emergency and OPD of our hospital were studied. All age groups and both sex were included.

#### Results

Out of 496 patients with appendicitis, 173 patients [34.87%] were diagnosed with appendicular mass. Age range of the patient in the study varied between 4-84 years and maximum patients found in the age group of 21-30 years. Onset of symptoms was between 2-6 days and greater number of patients reporting between 5-6 days. During study period 10(5.7%) patients came with recurrence, 9 [5.2%] developed abscess, 35(20.23%) patients came for interval appendicectomy, whereas 119 [68.78%] failed to come for a follow up.

#### Conclusion

Our study concluded that the appendicular mass can be managed successfully by conservative approach, although few complications may arise which can be managed by surgical intervention.

**Key words:** *Appendicular mass, Conservative approach, Interval appendicectomy.*

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#### Introduction

Acute appendicitis is one of the most common acute surgical conditions of the abdomen and is encountered in 2 – 6% of patients [1]. The appendicular mass usually develops following an attack of acute appendicitis and is the end result of a walled-off appendicular perforation and represents a pathological spectrum ranging from phlegmon to abscess [2,3]. These

masses include a spectrum of clinical presentations superseded by pathological processes ranging from localized collections of pus (peri-appendicular abscesses) to inflamed appendices which have become adherent to the omentum and surrounding viscera to form a phlegmon. The definitive treatment of acute appendicitis is appendicectomy. If timely appendicectomy is not done, the patients

develop a mass in the right iliac fossa (Appendicular mass) as one of the early complications [4,5].

Management of an appendicular mass is controversial with three general approaches usually employed [6,7]. 'Classical management' involves initial conservative management with broad spectrum antibiotics and intravenous fluid until the inflammatory mass resolves. Patients are offered interval appendicectomy 4-6 weeks later, believing that an early appendicectomy in these cases is hazardous, time consuming and may lead to life threatening complications such as fecal fistula [8-10].

Semi conservative approach involves performing immediate appendicectomy during the initial admission after resolution of the inflammatory mass or entirely conservative approach without interval appendicectomy. Of these, the advantage of Classical management technique is effective in the majority of patients. It helps to prevent recurrence of acute appendicitis and avoids misdiagnosing an alternative pathology such as malignancy [11-14].

Therefore, the present study was undertaken with the aim to evaluate the outcome of conservative approach followed by interval appendicectomy so as to achieve complete resolution of the inflammatory mass and the disappearance of symptoms in the patient before any surgical intervention.

#### **Material and Methods**

A retrospective study regarding the patients managed with appendicular mass, was conducted in Department of General Surgery, Nobel Medical College and Teaching Hospital, Biratnagar, from 1<sup>st</sup> January 2014 to 31<sup>st</sup> December 2014, after taking ethical clearance from Institutional Review Committee. Among the total 496 patients with appendicitis admitted in hospital, 173 patients were

diagnosed with appendicular mass. All the age group and both the sex were included in the study. The appendicular mass was either diagnosed on the basis of physical examination or on radiological evaluation. All the patients with the diagnosis of appendicular mass were managed with standard conservative approach of Ochsner Sherren regimen followed by interval appendicectomy after 4-6 weeks.

Parameters included in the study were demographic data, incidence, age group, duration of symptoms, length of hospital stay, complications, recurrence of appendicitis, rate of elective appendicectomy and follow ups. Data were analyzed with SPSS software.

#### **Results**

A total of 496 patients with appendicitis were managed in our hospital during the study period. Among them, 173 patients diagnosed with appendicular mass were included for analysis. Therefore, total incidence of appendicular mass was 34.87%. Out of them female patients were 107 and male patients were 66. Therefore female: male ratio was 1.62:1.

Age range of the patient included in the study varied between 4-84 years and the median age was 30 [As depicted in table 1]. The patient had onset of the symptoms between 2-6 days, with greater number of patients reporting between 5-6 days [45.08%] [As shown in Table 2]. Overall length of hospital stay varied between 2-15 days with an average of 4-5 days. During conservative treatment 9 [5.2%] developed appendicular abscess. Among them 6 cases were managed with ultrasound guided drainage while 3 cases needed laparotomy drainage and appendicectomy. Recovery was seen in all the managed cases.

During study period 10 [5.7%] cases returned with repeat attack of acute appendicitis and all of them underwent successful appendicectomy.

Similarly, 35 [20.23%] patients returned for interval appendicectomy at the duration of 6 weeks to 10 months. All of them underwent appendicectomy, although there was difficulty in finding appendix during surgery in few cases.

Other 119[68.78%] patients failed to come for follow up.

**Table 1. Age distribution**

Age group	No of patients
1-10	7
11-20	49
21-30	33
31-40	24
41-50	20
51-60	15
61-70	12
71-80	10
81-90	3

**Table 2. Duration of symptoms at presentation**

Duration of symptoms	No of patients	Incidence %
< 48 hrs	9	5.2
3-4 days	35	20.3
5-6 days	78	45.08
> 6 days	51	29.4

### Discussion

Acute appendicitis is a very common surgical cause of acute abdomen. With prolongation of duration of symptoms, in some patients, appendicular mass develops [15].

In the present study appendicular mass was found in 34.87% whereas other study conducted in different places the incidence ranges from 2-6%[1]. The incidence is found to be higher in our study, as reason may be the late presentation of the patients from the areas where emergency medical facilities are not available or may be due to financial problem or ignorance where patients either do not seek medical advice or take the analgesics over the

counter. The maximum patients in this study, i.e. 49 (28.32%) were between the age group of 11 – 20 years, however the age varied from 4 - 84 years suggesting any age group prone to develop mass. The female to male ratio is 1.62:1 which is in contrast to other studies where male predominance is found. Majority of the patients who presented with lump had symptoms between 5-6 days. In other studies, it was found to be 3-4 days. Reason might be the patient in our region coming from distant places and habit of getting treatment by local practitioner [16]. During the conservative management, appendicular abscess may develop in few cases [17]. In the present study, appendicular abscess developed in 9[5.2%] of the patients who were managed with either ultrasound guided drainage or laparotomy drainage and successful appendicectomy. Failure of conservative management has been reported in 2-3% of cases with urgent exploration [17].

In our study, 10 [5.7%] cases returned with repeat attack of acute appendicitis and all of them underwent successful appendicectomy.

Similarly, 35 [20.23%] patients returned for interval appendicectomy at the duration of 6 weeks to 10 months. All of them underwent appendicectomy, although there was difficulty in finding appendix during surgery in few cases. Other 119[68.78%] patients failed to come for follow up; actual cause for it could not be found. Reason might be either the patients fully recovered and did not find a need to seek medical advice, or the patients went to other centers. A meta-analysis conducted over a 13 years period, including 1012 patients concluded that the interval appendicectomy was not justified, as the majority [95%] of the patients managed conservatively will not develop recurrence[3]. The success rate of initial conservative management varies between

76-97%. In our study out of 173 patients 9[5.2%] developed abscess. Remaining patients were managed conservatively. So our success rate of conservative management was 94.8 % comparable to other studies[18].

According to the results of our study, most of the patients were managed successfully by conservative approach with only few needing surgery for complications.

### **Conclusion**

It can be concluded that the appendicular mass can be managed successfully by conservative approach, however few complications may arise which may need urgent surgical exploration. Although there were few limitations of the study that has to be considered for future, is that it has been conducted in a single center, with small sample size and there was no evidence regarding the patients who failed to come for a follow up.

### **References :**

- [1]. Hogan MJ, Appendiceal abscess drainage, Techniques in vascular and interventional radiology. 6:4 (2003) 205-14.
- [2]. Okafor PI, Orakwe JC, Chianakwana GU, Management of appendiceal masses in a peripheral hospital in Nigeria: review of thirty cases, World journal of surgery. 27:7 (2003) 800-3.
- [3]. Nitecki S, Assalia A, Schein M, Contemporary management of the appendiceal mass, British journal of surgery. 80:1 (1993) 18-20.
- [4]. Ali S, Rafique HM, Appendicular mass; Early exploration vs conservative management, Professional Med J. 17:2 (2010) 180-4.
- [5]. Jordan JS, Kovalcik PJ, Schwab CW, Appendicitis with a palpable mass, Annals of surgery. 193:2 (1981) 227.
- [6]. Willemsen PJ, Hoorntje LE, Eddes EH, Ploeg RJ, The need for interval appendectomy after resolution of an appendiceal mass questioned, Digestive surgery. 19:3 (2002) 216-22.
- [7]. Ein SH, Langer JC, Daneman A, Nonoperative management of pediatric ruptured appendix with inflammatory mass or abscess: presence of an appendicolith predicts recurrent appendicitis, Journal of pediatric surgery. 40:10 (2005) 1612-5.
- [8]. Brown CV, Abrishami M, Muller M, Velmahos GC, Appendiceal abscess: immediate operation or percutaneous drainage?, The American Surgeon. 69:10 (2003) 829.
- [9]. Friedell ML, Perez-Izquierdo M, Is there a role for interval appendectomy in the management of acute appendicitis?, The American surgeon.66:12 (2000) 1158-62.
- [10]. Tekin A, Kurto lu HC, Can I, Öztan S, Routine interval appendectomy is unnecessary after conservative treatment of appendiceal mass, Colorectal Disease. 10:5 (2008) 465-8.
- [11]. Eryilmaz R, Sahin M, Sava MR, [Is interval appendectomy necessary after conservative treatment of appendiceal masses?], Ulusal travma ve acil cerrahi dergisi= Turkish journal of trauma & emergency surgery: TJTES. 10:3 (2004) 185-8.
- [12]. Bagi P, Dueholm S, Nonoperative management of the ultrasonically evaluated appendiceal mass, Surgery. 101:5(1987)602-5.
- [13]. Samuel M, Hosie G, Holmes K, Prospective evaluation of nonsurgical versus surgical management of appendiceal mass, Journal of pediatric surgery. 37:6 (2002) 882-6.
- [14]. Adalla SA, Appendiceal mass: interval appendectomy should not be the rule, The British journal of clinical practice. 50:3 (1995)168-9.
- [15]. Ali S, Rafique HM, Appendicular mass; Early exploration vs conservative management, Professional Med J. 17:2 (2010)180-4.
- [16]. Pandey CP, Kesharwani RC, Chauhan CG, Pandey MK, Mittra P, Kumar P, Raza A, Management of appendicular lump: early exploration vs conservative management, International journal of medical science and public health. 2:4 (2013)1046-9.
- [17]. Malik AM, Shaikh NA, Recent trends in the treatment of the appendicular mass, INTECH Open Access Publisher; 2012.
- [18]. Bhandari RS, Thakur DK, Singh KP, Revisiting appendicular lump, Journal of Nepal Medical Association. 49:178 (2010) 108-11.