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A Clinical Study and Management of Appendicular Mass

Adityakumar M Awati[1], Sharad M Tanga[2]

Author's Affiliation: [1]Junior Resident, [2]Professor, Department of General Surgery, Basaveshwara Teaching and General Hospital, Mahadevappa Rampure Medical College, Kalaburagi, Karnataka 585105, India.

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Abstract

Background: Appendicular mass, a common surgical clinical entity is noticed in about 2–6% of patients and present with features of acute appendicitis. Treatment of appendicular mass is often cited as being controversial. Earlier, these patients were managed conservatively which was then followed by an interval appendicectomy carried out 4–6 weeks later. The need for interval appendicectomy has also been questioned. Early surgery on the other hand has an advantage of being curative in the index admission and ensures early return to work and higher compliance. A true controversy exists as to which is the best approach towards this problem and the opinion is divided about the management of an appendicular mass. The present study is designed to evaluate feasibility and safety of immediate appendicectomy in appendicular mass in our hospital by comparing the results of an equal number of patients treated conservatively.

Title: Management of appendicular mass: comparative study between different modalities.

Aim: To study the effective management of appendicular mass.

Materials and Methods: This study is prospective interventional study and included patients aged between 15 to 70 years diagnosed with appendicular mass. Data collected included history, clinical presentation, investigation, diagnosis, surgery, complications and length of hospital stay.

Results: A total of 30 patients were admitted with diagnosis of appendicular mass, 15 pts were treated with ochsnersherren regimen out of which 6 were treated with interval appendectomy and other 15 patients were treated with open appendectomy.

Conclusion: Patients with appendicular mass who were treated with open appendectomy had longer duration of hospital stay associated with wound infection when compared to that of patients treated with ochsnersherren regimen and interval appendectomy. Therefore this study favors ochsnersherren regimen as preferred approach for the treatment of appendicular mass.

Keywords: Appendicular mass; ochsnersherren regimen; Acute appendicitis.

Corresponding Author: Adityakumar M Awati, Junior Resident, Department of General Surgery, Basaveshwara Teaching and General Hospital, Mahadevappa Rampure Medical College, Kalaburagi, Karnataka 585105, India.

E-mail: aditya.awati7@gmail.com

Introduction

Appendicular mass, a common surgical clinical entity is noticed in about 2–6% of patients and present with features of acute appendicitis.[11] The localization of infection that occurs 3 to 5 days after an attack of acute appendicitis episode is called as an appendicular mass. It is mainly composed of the inflamed appendix, omentum and loops of bowel. There are several management options described to manage a case of appendicular mass.

Earlier, these patients were managed conservatively which was then followed by an interval appendicectomy carried out 4–6 weeks later because it was believied that an early appendicectomy procedure in these cases is hazardous, time consuming and can lead to life threatening complications like faecal fistula. The need for interval appendicectomy has also been questioned.[3] Advocates of initial conservative approach have claimed lower rate of complications as compared to early operative approach.[4] In 10–20% cases, it has prooved unsuccessful and the patients need emergency operation due to spreading infection that is comparatively more difficult. Additionally, patient may suffer a

recurrent episode of appendicitis after being discharged from hospital. Large number of patients refuse to get re-admitted for operation once their acute problem is solved. This is one of the major disadvantage of the initial conservative approach. Treatment of appendicular mass is now taking a turn from the traditional approach of initial conservative treatment then followed by interval appendicectomy to immediate appendicectomy.[5] This change is not widely accepted yet and a large number of surgeons still continue to adopt the traditional approach.[6]

Early surgical intervention is said to be an effective alternative to conservative therapy since long time. Because it considerably reduces total hospital stay and obviates the need for second admission.[7]

Aims and objectives of the study

To study the effective management of appendicular mass and its complications

Materials and Methods

Patients admitted in Basaveshwara Teaching and General Hospital affiliated with Mahadevappa Rampure Medical College Gulbarga, diagnosed to be appendicular mass are included in our study by applying the following inclusion and exclusion criteria.

Inclusion criteria for the study:

1. All patients with appendicular mass between 15 to 70 years
2. Both the sexes.

Exclusion criteria:

1. Cases of group that turned out to be carcinoma caecum and carcinoma appendix and ileocecal tuberculosis.
2. Patients who underwent emergency appendicectomy for acute appendicitis.

Study design: Prospective Interventional study

Sample size: 30

Sampling procedure: simple Random Sampling

Duration of study: 1st October 2018 to 30th April 2020 (18 months).

Results

The study was divided into two groups operative appendecectomy and oschner sherren regimen group (which includes 6 patients treated by interval appendecectomy).

Table 1: Age distribution comparison between two groups.

		Group					
		Operative Appendicectomy		OcshnerSherren Regime		Total	
		Count	%	Count	%	Count	%
Age	<20 years	4	26.7	3	20.0	7	23.3
	21 to 30 years	3	20.0	6	40.0	9	30.0
	31 to 40 years	4	26.7	2	13.3	6	20.0
	41 to 50 years	1	6.7	3	20.0	4	13.3
	>50 years	3	20.0	1	6.7	4	13.3
	Total	15	100.0	15	100.0	30	100.0
	Mean ± SD	35.27 ± 17.22		31.53 ± 14.121			

In OA group, majority of subjects were in the age group <20 years and 31 to 40 years (26.7%) respectively, in OSR group, majority of subjects were in the age group 21 to 30 years (40%). There was no significant difference in age distribution between two groups. (Table 1)

Table 2: Gender distribution comparison between two groups.

		Group					
		Operative Appendicectomy		OcshnerSherren Regime		Total	
		Count	%	Count	%	Count	%
Gender	Female	6	40.0	7	46.7	13	43.3
	Male	9	60.0	8	53.3	17	56.7
	Total	15	100.0	15	100.0	30	100.0

In OA group, 60% were males and 40% were females. In OSR group 53.3% were males and 46.7% were females. There was no significant difference in gender distribution between two groups. (Table 2)

Table 3: Per abdomen Findings distribution comparison between two groups.

		Group					
		Operative Appendicectomy		OcshnerSherren Regime		Total	
		Count	%	Count	%	Count	%
Per abdomen	Positive	15	100.0	15	100.0%	30	100.0

In both groups, 100% were positive for per abdomen. (Table 3)

Table 4: Duration of Symptoms distribution comparison between two groups.

		Group					
		Operative Appendicectomy		Ocshner Sherren Regime		Total	
		Count	%	Count	%	Count	%
Duration	3	3	20.0	1	6.7	4	13.3
	4	4	26.7	4	26.7	8	26.7
	5	4	26.7	5	33.3	9	30.0
	6	0	0.0	2	13.3	2	6.7
	7	2	13.3	1	6.7	3	10.0
	8	1	6.7	0	0.0	1	3.3
	10	1	6.7	2	13.3	3	10.0
Mean ± SD		5.13 ± 2.031		5.53 ± 2.066			

In OA group, mean duration of symptoms was 5.13 ± 2.031 days and in OSR group was 5.53 ± 2.066 days. There was no significant difference in duration between two groups. (Table 4)

Table 5: Operative Problems comparison between two groups.

		Group					
		Operative Appendicectomy		Ocshner Sherren Regime		Total	
		Count	%	Count	%	Count	%
Operative Problems	DIA	5	33.3	0	0.0	5	16.7
	Negative	10	66.7	15	100.0	25	83.3

In OA group, 33.3% had DIA and in OSR group, 100% had negative findings. There was significant difference in Operative problems between two groups. (Table 5)

Table 6: Complications comparison between two groups.

		Group					
		Operative Appendicectomy		Ocshner Sherren Regime		Total	
		Count	%	Count	%	Count	%
Complications	Negative	10	66.7	15	100.0	25	83.3
	WI	5	33.3	0	0.0	5	16.7

In OA group, 33.3% had wound infection and in OSR group, 0% had wound infection. There was significant difference in Complications between two groups. (Table 6)

Table 7: Duration of Hospital Stay comparison between two groups.

	Group	N	Mean	SD	P value
Hospital Stay	Operative Appendicectomy	15	12.33	4.639	<0.001*
	OcshnerSherren Regime	15	5.33	1.496	

Mean duration of Hospital stay in OA group was 12.33 ± 4.639 days and in OSR group was 5.33 ± 1.496 days. There was significant difference in mean duration of hospital stay between two groups. (Table 7)

Discussion

In the present study 30 of appendicular mass those attended BTGH surgery OPD from 1st October 2018 to 30th April 2020 (18 months) were included.[15] patients were treated with open appendecectomy and 15 patients were treated with conservative treatment of which 6 patients with interval appendecectomy. There was no significant difference in age distribution between two groups.[8] (Table 1)

Pain abdomen was the most common presenting symptom. Vomiting was present in 12 patients,most of them had 2–3 bouts of 1 or 2 days duration. Fever was present in 12 patients at the time of admission.[9]

Most of the patients had duration of 3–5 days since the onset of symptoms. (Table 4)

Abdominal tenderness,i.e. tenderness in the right iliac fossa was present in majority of the cases, 28 of 30 cases.

Although appendicular mass is a clinical diagnosis, mass per abdomen /mass in the right iliac fossa was palpable only in 8 cases.

USG being a non-invasive method detects appendicular mass in the patients in whom clinically mass per abdomen was not palpable. In our study USG was able to detect appendicular mass in all the 30 cases. USG is the first line of investigation and investigation of choice in appencitis and appendicular mass.[10]

The conservative treatment was mainly based on Oschner-Sherren's regimen which included nasogastric aspiration,intravenous fluids (2 to 3 days) and antibiotics (ciprofloxacin 500mg BD and metronidazole 400mg TID) along with monitoring of size of the mass,temperature,pulse and respiratory chart.[11]

The decision to treat these patients conservatively is based on the facts that nature already having localized the lesion, it is unwise to disturb the scene, breaking the barriers. An operation in this case is not only difficult, but also involves more blood loss. Operation may lead to the spread of infection and prove dangerous. Later fecal fistula may result.[12]

It is better to observe nonoperative measures when the general condition of the patient is good,but the surgeon should be prepared to operate if the complications arise.[13]

Appendicitis is the most common surgical entity encountered in surgical opds and one must keep this as the first differential diagnosis in dealing with mass in the right iliac fossa mass who presents acutely. If the mass is already formed and the general condition of the patient is good,the standard treatment is conservative Oschner-Sherrens regimen) and one should operate if complications arises.[14]

Immediate surgery has its own merits and demerits and should be considered in selected patients in good centers with expertise in managing complications.[15]

Conclusion

Clinical examination and history are important in the diagnosis of appendicular mass. Radiological investigations are necessary and Ultrasound is the first line of investigation and investigation of choice in diagnosis of appendicular mass. Ultrasound when compared to the clinical examination,ultrasound is superior in detecting appendicular mass. We compared patients treated with open appendecectomy and with conservative Oschner Sherrens regimen. Majority of Patients responded to conservative treatment. So we concluded that traditional OcshnerSherren regimen is still the preferred approach in the treatment of appendicular mass.

Reference

1. Senapathi PSP, Bhattacharya D, Amori BJ. Early laparoscopic appendectomy for appendicular mass. SurgEndosc. 2002; 16(12):1783–5.
2. Russel RCG, William NS. Vermiform appendix. Short Practice of Surgery; 24th edition ;(2) 2004. p 1203–8 .
3. Ein SH, Shandling B. Is interval appendectomy necessary after rupture of an appendiceal mass? J Paediatr Surg. 1996; 31:849–50.
4. Tingstedt B, Bexe-Lindskog E, Ekelund M, Andersson R. Management of appendiceal masses. Eur J Surg 2002; 168(11):579–82.
5. Garg P, Dass BK, Bansal AR, Chitkara N. Comparative evaluation of conservative management versus early surgical intervention in appendicular mass—a clinical study. Indian Med Assoc.1997; 95(6):179–80.
6. Erdogan D, Karaman I, Narci A, Karaman A, Cavuşoğlu YH, Aslan MK, et al. Comparison of two methods for the management of appendicular mass in children. PediatrSurg Int. 2005; 21(2):81–3.
7. De U, Ghosh S. Acute appendicectomy for appendicular mass: a study of 87 patients. Ceylon Med J. 2002; 47(4):117–8.
8. Ali S, Rafique HM. Appendicular mass; Early exploration vs conservative management. Professional Med J Jun 2010; 17(2):180–184.
9. Meshikhes AW. Management of appendiceal mass: controversial issues revisited. J Gastrointest Surg. 2008 Apr; 12(4):767–75. Epub 2007 Nov 13.
10. Malik Arshad, Laghari A. Aziz, MallahQasim, K. AltafHussainTalpur Early appendicectomy in appendicular mass—a Liaquat university hospital experience J Ayub Med Coll Abbottabad 2008; 20(1).
11. Jordan JS, Kovalcik PJ, Schwab CW: Appendicitis with a palpable mass. Ann Surg; 1981; 193:227–9 .
12. Meade RH. An Introduction to the History of General Surgery. Philadelphia, PA: Saunders; 1968

13. Richardson RG. The Surgeon's Tale. New York, NY: Scribner's; 1958.
14. Williams RA, Myers P. Pathology of the Appendix. London, England: Chapman and Hall; 1994.
15. Da Capri JB. Commentaria cum Amplissimus Additionibus Super Anatomia Mundini Una cum TextaEjusudem in Pristinumet Verum Nitorem Redanto. 528 ff. Bolonial Imp. per H. Benedictus, 1521.