

Idiopathic Segmental Infarction of Omentum; Surgeon's Perspective in Comparison with Conservative Line of Management

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Abstract

Segmental infarction of omentum was first described by Bush in 1896. Incidence is <.1% of laparotomies done for the a/c abdominal cases [5]. Incidence is more in males (2:1). Exact aetiology is not known so we take it as idiopathic. There are different postulates for its occurrence. One is fragile blood vessels of right lower segment of omentum and another is embryological maldevelopment of right sided omental blood supply [5]. It has also been described that it occurs after exertion, after heavy meal and in obese patients. Clinically it may present as a/c appendicitis, diverticulitis or cholecystitis. CT scan abdomen will help to diagnose this condition [3]. There are different schools of thought. One is conservative line of management and other is surgical line of management. There are pros and cons of both management. Here we discuss 6 patients who presented in our institute with abdominal pain and were managed by both surgically (Laparoscopic resection) and conservatively. After surgery patients were asymptomatic after 1 week except minimal tenderness over port sites, whereas patients managed conservatively had to take analgesics for 4-6 weeks. We found early resolution of symptoms in surgically managed patients in comparison to conservatively managed patients.

Keywords: Omental Infarction; Omentum; a/c Abdomen; Laparoscopy; Resection of Omentum; RIF pain; RHC Pain.

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Introduction

Segmental infarction presents as abdominal colic mimicking a/c appendicitis or cholecystitis. On evaluation many a time blood total count will be high suggesting a/c inflammation and diagnosis can be confirmed on taking USG or CT Scan abdomen [3,4]. Complications described are infection, abscess formation and intestinal obstruction caused by fibrosis. Management depends on the time of presentation. Patients presenting acutely may be considered for surgery, especially when there is diagnostic dilemma. Patients presenting after resolution of symptoms on taking analgesics and the diagnosis confirmed with CT scan, may be considered for conservative line after explaining the prognosis of the condition. When the infarcted omentum is adherent to abdominal wall it will produce the symptoms of a/c inflammatory condition depending on the quadrant in which it is attached. If it is attached to right hypochondrium, mimics cholecystitis and in right iliac fossa mimics appendicitis [8]. There are different schools of thought, one is for conservative line of management and other is surgical treatment. Here the advantage of surgery was early recovery of illness. With laparoscopy we could diagnose as well as exclude other conditions which mimic the same clinical features. The presence of serosanguineous fluid without evidence of any other pathology is highly suggestive of omental infarction [7]. In the era where we were doing only open surgeries, in comparison with conservative line of management many were of the opinion that surgery is not required. With the introduction of laparoscopy and advanced radiological investigation more cases of omental infarction are reported. On laparoscopy infarcted omentum is clearly seen with sero

sanguineous fluid in the peritoneal cavity [2,9]. With excision of infarcted omentum the patient becomes asymptomatic within a short period of interval. Even after invasive procedure like surgery patient was totally asymptomatic after 1-2 weeks. Complication like infection, abscess and intestinal obstruction due to fibrosis were described in case of conservative line of management. So we should follow up those cases which are managed conservatively.

Materials and Methods

The patients came with a/c abdominal pain and diagnosed as omental infarction with USG abdomen or CT Scan are included in the study.

Clinical examination, USG abdomen, CT Scan and laparoscopy are the methods used to diagnose segmental omental infarction.

Case 1

A 32 yrs old male patient presented with a/c abdominal pain of 3 days duration. No history of similar complaint in the past. No other significant history contributing to the present clinical problem. O/E Vitals stable. Abdomen was soft. RIF tenderness was present. Localised guarding was present. Clinically diagnosed as a/c appendicitis and on investigation TC was 11,200/cu.mm with polymorph count 78%. USG abdomen showed omental infarction with possibility of appendicitis. Laparoscopy was done and excised the infarcted omental segment [Figure 1]. As there was high suspicion of Appendicitis clinically and per operatively, appendectomy was also done in this case.

Case 2

A 65 yrs. old female patient presented with a/c abdominal pain of 2 days duration. Clinically diagnosed as a/c appendicitis. O/E vitals stable. TC 10,800/cu mm with leucocyte count 76%. USG abdomen was done and reported as a/c appendicitis with omental adhesion. Laparoscopy was done to reveal a segment of infarcted omentum adherent to anterior abdominal wall in the right iliac fossa with sero sanguinous fluid in the peritoneal cavity. The appendix was looking normal. The infarcted omentum was excised and removed with bag [Figure 2]. Post-operative period was Uneventful.

Case 3

A 38 yrs old male presented with RIF pain of 3 days duration. O/E Vital signs stable. Abdomen was soft. Tenderness in the RIF was present. TC was 13,400/cu mm with polymorphs 79 %. USG abdomen was done which was not informative. With a clinical diagnosis of appendicitis and persistent RIF pain and tenderness we did diagnostic laparoscopy. There was infarcted omentum adhering to anterior abdominal wall in the RIF with sero sanguinous fluid in the peritoneal cavity. Other viscera were normal. Laparoscopic resection of infarcted omentum was done [Figure 3]. Post-operative period was uneventful and patient was discharged on 2nd day.

Case 4

A 34 yr. old male patient came with abdominal pain of 1 month duration more over the right hypochondrium. He gives h/o trauma 1 ½ months back with fall. No h/o similar complaints in the past. He was on symptomatic treatment with analgesics. No other significant history. O/E vitals stable. TC was 8400/cu mm. CT scan showed omental segmental infarction adherent to anterior abdominal wall towards right hypochondrium [Figure 4]. As patient was showing clinical improvement with analgesics for the past 4 weeks and with a diagnosis of omental infarction he was treated conservatively with analgesics. He took drugs for 1 more week and became asymptomatic on follow up.

Case 5

A 48 yrs. old female patient presented with abdominal pain of 1 month duration. She was treated with analgesics from a peripheral hospital and since she was having persistent pain she was referred to here for further evaluation. O/E Vital signs stable. Abdomen was soft. Abdomen, there was a vague mass palpable in the right hypochondrium of size 3x4 cm. There was minimal tenderness over the RHC. So we did CT scan abdomen which showed 2.1X6.8X4.8 cm omental infarction adherent to anterior abdominal wall anterior and inferior to liver [Figure 5]. The patient was treated conservatively with analgesics and follow up after 10 days she was asymptomatic.

Case 6

A 41 yrs old male patient presented with abdominal pain of 3 days duration. No history was there contributing to the present problem. O/E Vital signs stable. Abdomen was soft with RHC tenderness. TC

10,600/cu mm with Polymorph count 62%. Clinical diagnosis was Cholecystitis. USG abdomen showed 4.5X2 cm mass in the RHC with possible diagnosis of epiploic appendicitis. Because of persistent pain and tenderness diagnostic laparoscopy was done which

showed infarcted omentum adhering to abdominal wall and was excised [Figure 6]. Post-operative period was uneventful. On follow up he was asymptomatic after 10 days.

Table 1:

Segmental omental Infarction		
	Laparoscopic Surgery	Conservative Management
Advantages	Allays the symptoms very fast Lesser Hospital stay Decreases the morbidity Diagnostic and therapeutic tool	No risk of surgery and anaesthesia
Disadvantages	Risk of Anaesthesia Risk of Surgery	Diagnosis must be confirmed with CT scan May have to take analgesics for more days May require conversion to surgery Increased morbidity Prolonged Hospital stay

Table 2:

No	Sex	Presenting Complaint	Mode of Treatment	Hospital stay	Treatment with analgesics
1	M	Abdominal pain -3 days	Laparoscopic Surgery	3 days	1week
2	F	Abdominal Pain -2 days	Laparoscopic Surgery	3 days	1week
3	M	Abdominal Pain -3 days	Laparoscopic Surgery	2 days	1week
4	M	Abdominal Pain -30 days	Conservative	2 days	5 weeks
5	F	Abdominal Pain -30 days	Conservative	3 days	5-6 weeks
6	M	Abdominal Pain -3 days	Laparoscopic Surgery	3 days	10 days

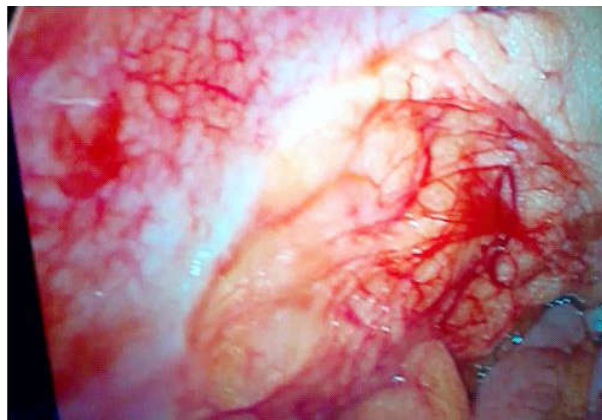


Fig. 1:

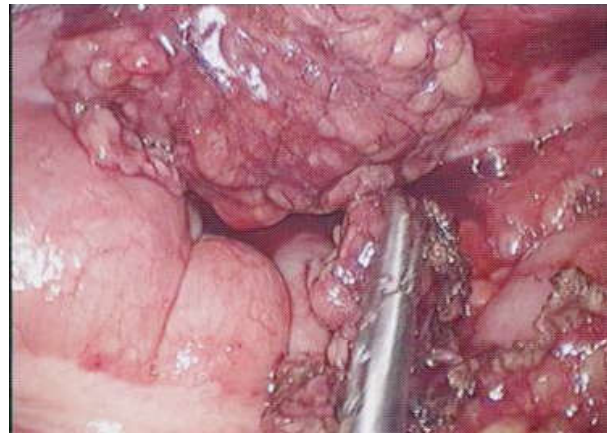


Fig. 3:



Fig. 2:

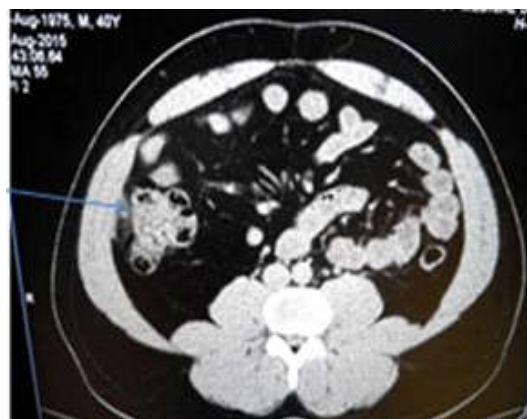


Fig. 4:

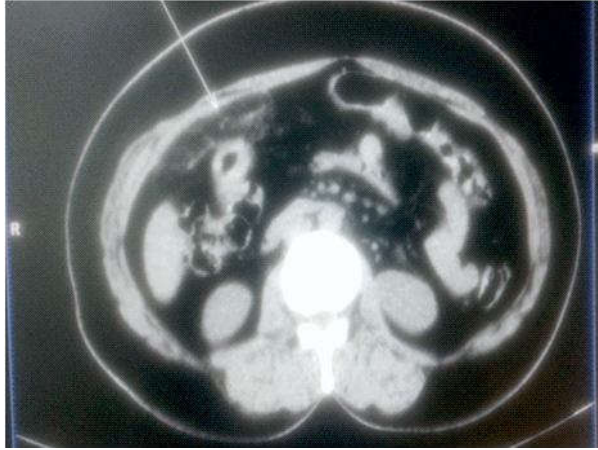


Fig. 5:

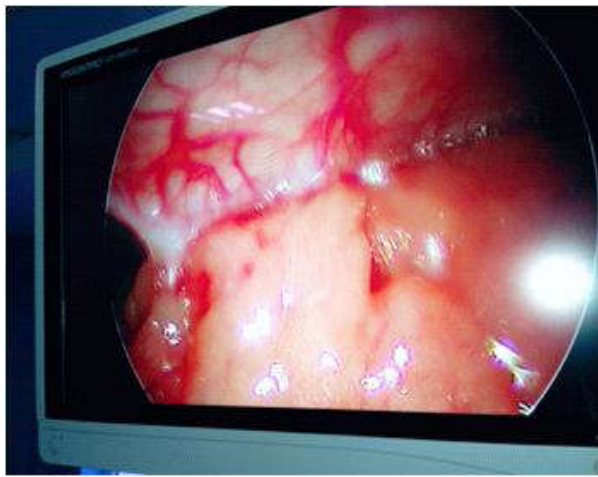


Fig. 6:

Discussion

Here we report 6 cases of segmental omental infarction that came to our department over the period of 2 yrs. In four cases surgical management was done. Other 2 cases we managed conservatively, but they presented after a period of 3-4 weeks getting treated symptomatically from outside without diagnosing it as omental infarction. Our role was to diagnose segmental infarction by taking CT scan abdomen. By the time we diagnosed those cases, they were having decrease in intensity of pain. They are treated symptomatically with oral analgesics and bettered.

The cases we operated were presented as a/c abdominal colic. Clinical diagnosis was a/c appendicitis in 3 and in one case it was cholecystitis. All were having increased blood counts with leucocytosis. One case we diagnosed as appendicitis with omental adhesion with USG abdomen. In other case USG abdomen was not informative. These two cases we did diagnostic laparoscopy with a

provisional diagnosis of a/c appendicitis. We could see the infarcted omentum and serosanguinous fluid in peritoneal cavity on scopy and we resected the infarcted segment of omentum. The 3rd case with the pre-operative diagnosis of omental infarction with USG, laparoscopy was decided to do as patient was symptomatic for 3 days and he was not relieved with analgesics and he had all classical features of appendicitis. Here we used laparoscopy as a diagnostic as well as therapeutic tool. In this case appendectomy was done along with omental resection because of high suspicion of appendicitis on scopy. Histopathological examination reported as infarcted omentum and appendicitis. The 4th case was having persistent pain and tenderness and USG diagnosis was epiploic appendicitis. Laparoscopy was done and infarcted omentum was excised. Histopathological examination was confirmative of infarcted omentum in all cases.

The other cases who presented with abdominal pain was presented after 1 month of symptomatic management from elsewhere. One case was clinically diagnosed as recurrent appendicitis with RIF pain and tenderness. On evaluation with CT scan of abdomen diagnosis of segmental omental infarction was made. With treatment of analgesics for another 1 week patient was alright and on review after another 1 week patient was asymptomatic. The other case presented with right hypochondrium pain and tenderness, was having a mass on palpation. After confirming segmental omental infarction with CT scan abdomen the patient was managed conservatively with analgesics and follow up of further 10 days she was symptoms free.

Here we presented 6 cases of segmental omental infarction of which 4 cases operated by laparoscopic resection of infarcted omentum. Even after invasive procedure like surgery patient was totally asymptomatic after 1-2 weeks. The other two cases managed conservatively with analgesics for 1 week to 10 days after diagnosis. But those 2 cases were presented after one month of symptomatic management.

Here the advantage of surgery was early recovery of illness. With laparoscopy we could diagnose as well as exclude other conditions which mimic the same clinical features. In the era where we were doing only open surgeries, in comparison with conservative line of management many were of the opinion that surgery is not required. With introduction of laparoscopy and advanced radiological investigation more cases of omental infarction are reported. On laparoscopy infarcted omentum is clearly seen with sero sanguinous fluid. With excision of infarcted

omentum the patient becomes asymptomatic and relieved of pain. Advantage of laparoscopic resection is described in Table 1. Rangarajan et al [9] described the advantage of laparoscopy in the management of SOI. Ha JP et al [10] are of the opinion for surgical resection of infarcted omentum.

Itenberget al [4] were of the opinion for conservative management of SOI. Till this date there are no studies comparing conservative and laparoscopic management of segmental omental infarction. Our case series support for the surgical management.

In segmental infarction incidence is more in males. Similarly 5 patients were males in our series. Site is more on right side of omentum because of embryological and anatomical anomaly of blood supply to right sided omentum. Our series also presented with appendicitis or cholecystitis. It was described that 0.6% to 4.8% of cases of omental infarction are diagnosed pre-operatively. This is not acceptable in the present era. The incidence of SOI described was <0.1 % of laparotomies, but more cases are reported now. Results of our observations are depicted in the Table 2.

Conclusion

Idiopathic segmental infarction of is not that common. Even though our case numbers are low, on analysing literature it is a significant count in a period of 2 yrs. We cannot say authentically from short numbers but, we are put forwarding our observation. Clinically may present as a/c appendicitis or cholecystitis. On evaluation with CT scan can diagnose the condition. In any diseases there are natural course of healing. Doctor's role is to hasten the recovery period and prevent the complication of diseases. So early surgical intervention in symptomatic Omental infarction patients is justified especially when there is diagnostic dilemma. Hospital stay is less with laparoscopic surgery. Patients had to take analgesics only for short period after surgery.

Acknowledgement

None

Conflict of Interest

The authors declare that there are no conflicts of interests.

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