

# Research Journal of Pharmaceutical, Biological and Chemical Sciences

## Appendicular Fibrosis Presenting As a Large Appendicular Mass: A Diagnostic Surprise.

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### ABSTRACT

Appendicitis is one of the most commonly encountered acute surgical condition of the abdomen. Appendicular mass formation is encountered when there is a delay in the diagnosis and treatment for appendicitis in 2-6 % of the patients. We present a case of appendicular mass in a 27 year old female, who was put on Ochsner Sherren regimen and seemed to initially respond to treatment. Although her symptoms subsided, there was no significant reduction in the size of the mass during her two weeks of in-patient stay. She was discharged but subsequently again presented with RIF pain and tenderness after one month with no reduction in the size of the mass. Exploratory laparotomy was planned and proceeded with. A smooth ovoid lump measuring 5 x 5 x 4 cm was seen arising from the base of the caecum. There were no adhesions or any evidence of appendicular mass formation. A right hemi-colectomy was done suspecting neoplasm and an end to end ileo-transverse anastomosis established. Cut section of the lump revealed a whorled appearance with the appendix coiled within. HPE report revealed appendicular fibrosis.

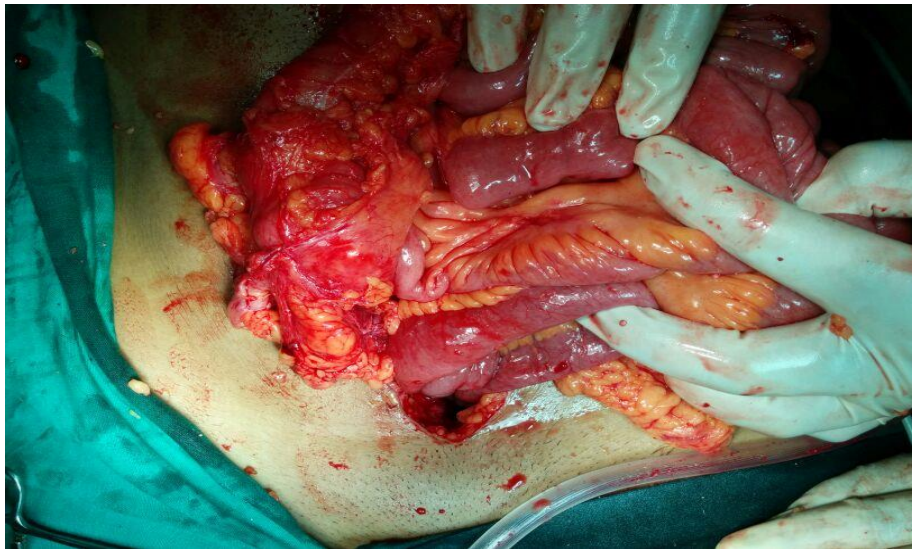
**Keywords:** appendicitis, fibrosis, abdomen

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## INTRODUCTION

The term Appendicitis was first coined by Reginald Fitz of Boston in 1886 who advocated early surgical intervention of the disease [1, 2]. A delay in the diagnosis and treatment of appendicitis can result in a local inflammatory process resulting in the formation of an appendicular mass usually comprising of the small intestine and omentum [3]. There is great controversy regarding whether early surgical intervention is a better option than the time tested Ochsner Sherren regimen and numerous studies have been published regarding the same. Although it has been noted that many surgeons prefer conservative treatment followed by appendicectomy at a later date, early surgical intervention for appendicular mass is now gaining momentum with the concept of interval appendicectomy now no longer being recommended by many authors. The main discerning factor for surgery in appendicular mass is the risk of injury to the small bowel or caecum during separation of the adherent bowel loops in the mass [4]. In this case report we describe an appendicular mass that presented in an acute episode however was not formed by the usual omentum and bowel loops but was found to be a dense fibrotic lump involving the appendix. It was found that there was not much literature described about the incidence of appendicular fibrosis causing such a large lump and is hence being presented.

## CASE REPORT



**Figure 1: The mass at the base of the caecum**

The patient a 27 year old female came to the ER with a history of right sided lower abdominal pain of 10 days duration. The pain was intermittent, dull aching with no specific history of radiation or migration. She had fever for 5 days prior to presentation and associated anorexia, nausea and vomiting. She also gave a history of dysuria. Her LMP and menstrual history was normal and gave no history of any white discharge per vagina. On examination she had tenderness and rebound tenderness at the McBurney's point. An ovoid mass was palpable in the RIF just medial to the anterior superior iliac spine measuring approximately 5 x 5 cm. It was tender, firm in consistency, not mobile, did not fall forward in knee-elbow position and all the margins of the swelling except the lateral aspect could be well made out. Her total leucocyte and neutrophil counts were elevated. Other blood investigations were normal. She was subjected to an ultrasound scan of the abdomen which revealed features suggestive of an appendicular mass. A contrast enhanced CT scan of the abdomen was done which also reported it to be an appendicular mass. She was started on Ochsner Sherren regimen and her symptoms resolved well within the first week. However it was noted that the mass after an initial marginal decrease in size did not decrease any further. She was discharged and asked to review in the OPD after three weeks. On review there was no further decrease in the size of the RIF mass however she was free of pain and was comfortable. A colonoscopy was planned and done which did not reveal any significant pathology of the large bowel and terminal ileum. The patient was asked to review again after four weeks, however she presented to the ER after two weeks with severe RIF pain and tenderness of one day duration. The RIF mass was palpable and had not decreased any further in size since her last visit. She was febrile and her counts were elevated. She did not have any obstructive features and an ultrasound of the abdomen again showed features

suggestive of appendicular mass. A laparotomy was planned and proceeded. A lower midline incision made and the abdomen was opened. It was noticed that there wasn't any omental, bowel or inter-bowel adhesions to the appendix or caecum, nor was there any inflammatory signs of the caecum. A smooth ovoid swelling measuring 5 x 5 x 4 cm was seen arising from the base of the caecum adherent to the lateral wall. The appendix could not be visualized separately. The mass was carefully separated from its attachments to the lateral wall of the abdomen and a right hemi-colectomy was done with an end to end ileo-transverse anastomosis being established. Cut section of the lump revealed a whorled appearance with the appendix coiled within. HPE reported it as appendicular fibrosis presenting as a mass.

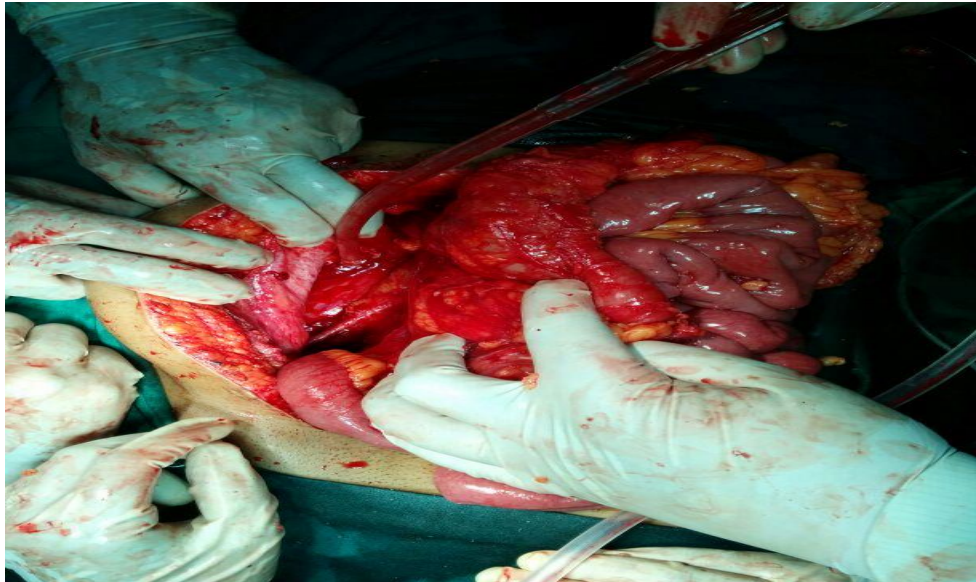


Figure 2: After reflection of the caecum and ascending colon

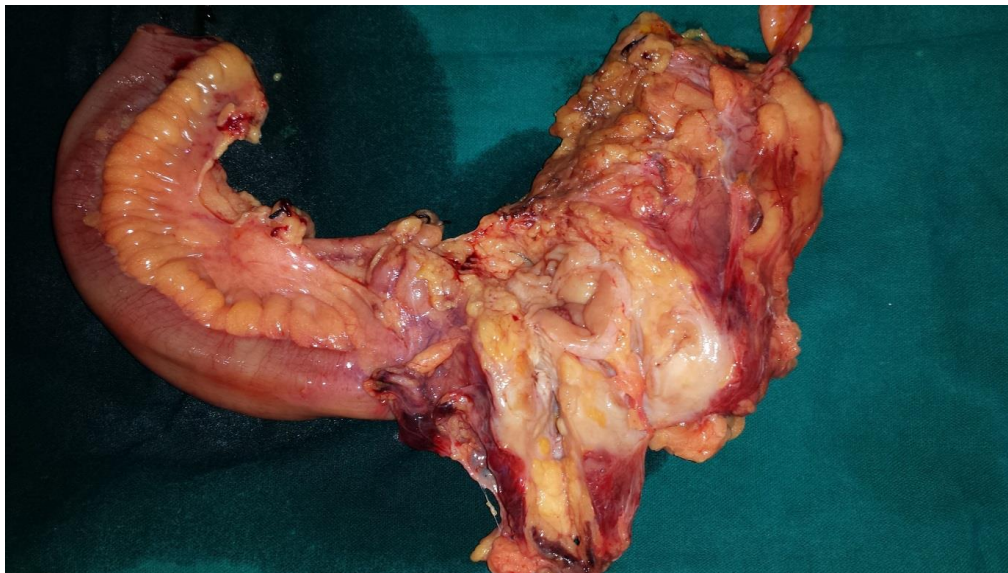


Figure 3: The resected specimen

#### DISCUSSION

Fibrosis is the formation of excess fibrous connective tissue in an organ or tissue in a reparative or reactive process. This can be a reactive, benign, or pathological state. In response to injury this is called scarring and if fibrosis arises from a single cell line this is called a fibroma. Physiologically this acts to deposit connective tissue, which can obliterate the architecture and function of the underlying organ or tissue.



Fibrosis can be used to describe the pathological state of excess deposition of fibrous tissue, as well as the process of connective tissue deposition in healing [5].

Fibrosis is similar to the process of scarring, in that both involve stimulated cells laying down connective tissue, including collagen and glycosaminoglycans. Immune cells called Macrophages, and damaged tissue between surfaces called interstitium release TGF beta. This can be because of numerous reasons, including inflammation of the nearby tissue, or a generalised inflammatory state, with increased circulating mediators. TGF beta stimulates the proliferation and activation of fibroblasts, which deposit connective tissue [6]. While all scarred tissue heals with fibrosis, it is unlikely that fibrosis formation is associated with pain. In this case our patient presented with an appendicular mass, which was associated with fever and was persistently painful and initially did subside with antibiotics [7]. However during surgery it was noted that there were no signs of any local inflammation - small bowel or inter-bowel adhesions, or any collection. Only a smooth hard mass was felt at the base of the caecum. The appendix was not separately visible. Since local inflammatory pathology dint seem to be the cause for the mass we decided to do a right hemicolectomy keeping in mind the possibility of a neoplastic lesion [8-10].

Subsequently on going through the available surgical literature it was found that there was hardly any literature available on fibrotic appendicular mass presenting in this unusual and rather misleading manner, and hence the decision to publish it.

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