
CASE REPORT

Draining Of Subphrenic Abscess into Pericardial Cavity—an Incidental Finding

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ABSTRACT

The direct extension of a subphrenic abscess into the pericardial cavity is a rare finding. We report a 13 year old boy with Past History of Abdominal surgeries presenting with Right Upper quadrant pain, fever, chest pain and shortness of breath. An abdominal USG diagnosed a subphrenic abscess and an ECG demonstrated diffuse ST and T wave changes depictive of Acute Pericarditis. Echo guided drainage of thick pus from the pericardial cavity was performed which followed USG guided drainage of subphrenic abscess and finally Exploratory Laparotomy and drainage of subphrenic abscess + Mediastonotomy and Pericardiostomy + diaphragmatic repair was performed.

Key words: Subphrenic abscess, pericardial cavity

INTRODUCTION

Subphrenic abscesses are known to follow abdominal surgeries. The manifestations of a subphrenic abscess range from a severe acute illness to an insidious chronic process characterized by intermittent fever, weight loss, anemia, and nonspecific symptoms. The known complications of subphrenic abscess are lower lobe lung collapse or development of a pleural effusion. We report a rare complication in which subphrenic abscess ruptured into pericardial cavity.

CASE REPORT

A 13 year old boy presented in Mayo Hospital with the Complaint of intermittent pyrexia (more at night), associated with chills and rigors and pain Right Hypochondrium for 5 days. Patient had a history of 2 previous abdominal surgeries. First one was performed for Blunt trauma abdomen 1.5 yrs ago in Allied Hospital Faisalabad. Patient most likely had a intestinal perforation for which Exploratory Laparotomy was done. After few days Patient started having abdominal pain and fever for which another Exploratory Laparotomy was done in Pindi Bhatiyani. (Details of procedure were to be reproduced by the patient.). At the time of admission his vital were Pulse 90/min, Blood Pressure 120/70mm of Hg Temp 99.6F Respiratory Rate 20/min. Regarding General Physical Examination pallor was + ve and jaundice –ve Abdominal Examination revealed fullness in the right Hypochondrium with moderate to severe tenderness. Provisional diagnosis of subphrenic abscess was made which was confirmed on abdominal USG which showed a 13 x 14cm size

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subphrenic abscess. The plan was to explore the patient On the 2nd day of admission patient complained of chest pain which was central in origin and associated with moderate respiratory distress. The findings were thought to be due to the abscess pushing on the diaphragm and causing dyspnoea and discomfort. 24hrs later patient got severly dyspneic and orthopneic; He could only count upto 6 in a single breath. His vitals were Pulse. 110 Blood Pressure. 100/60 Temp 99F Respiratory Rate 38 /min. JVP was normal. ECG showed ST segment elevation in I, II, AVF and all the chest leads. A diagnosis of pericarditis was made and supportive treatment instituted with corticosteroids and antibiotics. Next day an urgent Echocardiography revealed pericardial collection and a pig-tail catheter was inserted into pericardial cavity to actively aspirate 500 ml of thick yellow brown pus. An USG guided aspiration of subphrenic abscess was also performed and 1500 ml thick chocolate coloured puss was aspirated. Post Intervention vitals were P 100. BP 110/60. Temp 98.6 RR 30. This followed rapid improvement in the overall condition of the patient. On 2nd post intervention day the pt was releaved of his dyspnoea and orthopnea and could count upto 18 in a single breath. His culture report showed growth of "pseudomonas and E Coli".

5 days later his exploration was planned. Exploratory Laparotomy revealed 1 liter creamy pus in Right subphrenic space and a hole in the diaphragm communicating with the pericardial cavity through which pus oozed out with every heart beat. Mediastonotomy and pericardiostomy performed and pus drained, pericardial cavity washed with normal saline and gentacin instilled and a corrugated drain was placed over there.

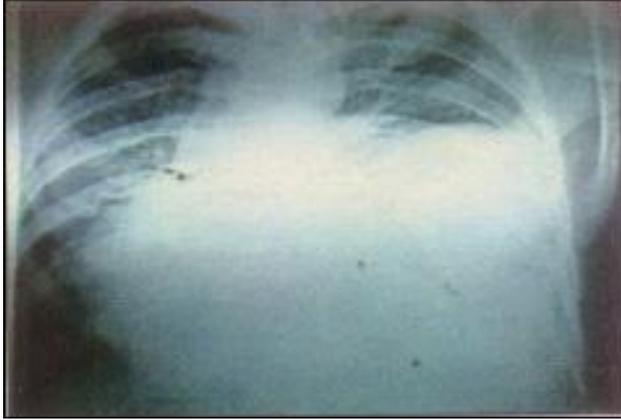


Fig: Subphrenic abscess draining to pericardial abscess.

DISCUSSION

Subphrenic abscess are localized infections between the colon and the diaphragm on the left side of the abdomen and the liver and the diaphragm on the right side of the abdomen. They may occur from rupture of any organ in the abdomen or following abdominal surgeries. Rupture of a subphrenic abscess into pericardial cavity is a rare but serious complication. The objective of reporting this case is to highlight this rare but dreadful complication of subphrenic abscess.

The pathophysiological mechanism of this complication is unknown¹. Pleural effusion is recognized to occur from subphrenic abscess either on right or left side². These pleural exudates may be caused by changes in the capillary permeability or lymph flow in the diaphragm induced by local effects of inflammatory products^{2,3,4,5}. We hypothesize a similar mechanism for the pericardial change, plus these inflammatory products might have resulted in breaching the diaphragm and made a hole in the pericardium as was seen in this case. The proximity of subphrenic inflammatory process to the pericardium overlying the left diaphragm may be a very key factor in determining whether pericardial complication develops¹. With relatively little liver mass

adherent to the left subphrenic surface, abscess there have exposure to area over which pericardium lies⁶.

There are many complications of abscess including sepsis, pyrexia of unknown origin, abdominal pain, hiccups and chest pain but subphrenic abscess complicating pericarditis is a very rare condition shown by the very little research work done on it. This indirect pericardial complication of subphrenic abscess is serious, posing life threatening risk and requiring costly and invasive procedure for management. In patient with subphrenic abscess early recognition of pericarditis may be life saving. Evidence of pericarditis should be aggressively sought by bedside examination, ECG, echocardiography, USG or CT scan. Conversely, subphrenic abscess should be sought when pleuropericardial exudates are otherwise unexplained¹.

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