

JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH

How to cite this article:

Verma A, Mohan S, Baijal S S. PYREXIA OF UNKNOWN ORIGIN CAUSED BY RETAINED INTRA-ABDOMINAL FOREIGN BODY. REPORT OF A CASE WITH REVIEW OF LITERATURE. Journal of Clinical and Diagnostic Research [serial online] 2007 June [cited: 2007 June 4]; 3: 159-162. Available from

http://www.jcdr.net/back_issues.asp?issn=0973-709x&year=2007&month=June&volume=1&issue=3&page=159-162&id=40

CASE REPORT

Pyrexia of Unknown Origin Caused by Retained Intra-Abdominal Foreign Body: Report of a case with review of literature

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ABSTRACT

Pyrexia of unknown origin (PUO) is a common occurrence in developing countries and has a long list of known etiologies. Many isolated reports and case series suggest new causative factors for PUO. The present report tries to highlight a rare cause of this condition which has been scarcely documented in the literature. It also reinforces the basics of clinical management i.e., detailed clinical history and examination which dictate subsequent investigations.

Key words: PUO; intra-abdominal foreign body; ultrasonography

Introduction

Retained intra-abdominal foreign body (RIFB) is an uncommon cause for pyrexia of unknown origin (PUO). The literature from west shows scanty citations of PUO caused by RIFB. A clinician from developing world may however not uncommonly encounter such a cause effect relationship. An important cause of RIFB is septic abortion [1], [2]. Though still a common practice, septic abortion is rarely reported being considered a medical malpractice. RIFB secondary to septic abortion is difficult to suspect as no definite history is usually available. Imaging plays a key role in diagnosing the presence of a RIFB. High index of suspicion and knowledge of common appearances is therefore required on the part of radiologist to help the treating physician elicit the complete history for correlation

[2], [3]. This would ultimately lead to an evidence based approach for treatment of this rare cause of PUO.

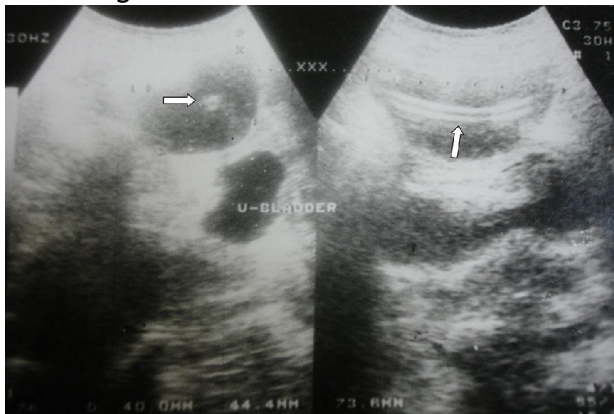
Case Report

A 37 years old female with history of contact with a positive case of pulmonary tuberculosis (PTB) presented to us with moderate grade fever for the past four months. On preliminary blood investigations and a chest radiograph, she was suspected of having pulmonary tuberculosis. Patient refused any further investigations to confirm PTB and anti tuberculous therapy was empirically started on provisional diagnosis, but was lost to follow up. After four months, she again presented with a vague, mildly tender lower abdominal lump associated with an occasional crampy lower abdominal pain. A low grade fever still persisted with no specific pattern. Per abdomen examination revealed a lump in the hypogastrium and umbilical region. The lump was doughy in consistency and tender on deep palpation. In the background of PTB it was thought to be lymph

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nodal mass or a mass formed due to mesenteric adhesions. On ultrasonography (USG), two parallel echogenic lines with distal reverberation artifacts, suggestive of a foreign body (FB), approximately one foot in length were noted extending from right hypochondrium to the left lumbar region lying transversely through the lower umbilical region (above the dome of urinary bladder) [Tab/Fig1] One end of the FB had penetrated the anterior inferior end of the hepatic parenchyma with a small area of adjacent fluid collection. The other end was lying free. All around this FB fluid collection with internal echoes suggestive of debris was noted, which appeared loculated by surrounding adhesions. A vague heterogeneity was noted at the fundic myometrium. A possibility of intra-abdominal foreign body with surrounded infected fluid collections was raised. A plain radiograph of abdomen (erect and supine) was obtained which confirmed the presence of the FB [Tab/Fig2] No radiological evidence of any bowel perforation or intestinal obstruction was noted.

Table/Fig1

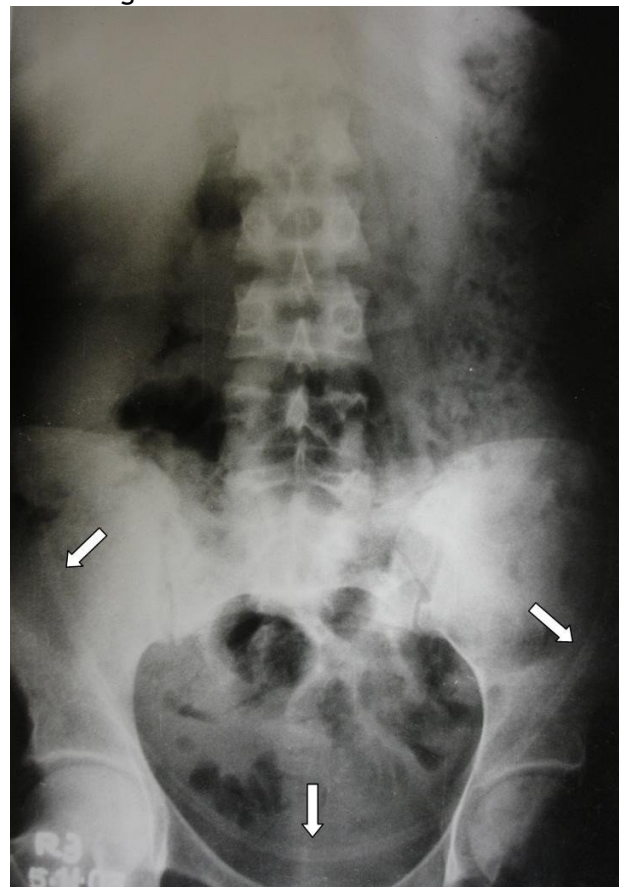


USG scan of lower abdomen showing two parallel echogenic lines with distal reverberation artifacts suggesting presence of a foreign body (Arrow). Surrounding loculated fluid collection with internal echoes suggesting infected debris is also noted.

Detailed menstrual history revealed that she had eight full term normal deliveries. On further probing, she admitted having undergone 5 – 6 pregnancy terminations in the last three years by untrained village personnel. According to her, various

instruments were used for the purpose and the last time she underwent such a procedure, she had lots of post procedural pain and bleeding. The fever, for which she had reported, started one month after this procedure. Laparotomy and peritoneal lavage following removal of foreign body was done, followed by post operative care and intravenous antimicrobial therapy. The patient had an uneventful recovery and was asymptomatic at 6 months follow up.

Table/Fig2



Plain radiograph of abdomen showing radiopaque foreign body extending from right hypochondrium to left iliac fossa (Arrows) [Consent for publishing X-ray was obtained from the patient]

Discussion

Pyrexia of unknown origin (PUO) is defined as ‘when the body temperature is more than 38° C on

several occasions in three consecutive weeks with no etiological diagnosis possible in spite of one week of inpatient stay and intelligent investigation' [1]. Recently this has been classified and redefined in four groups i.e., classical, neutropenic, nosocomial and HIV related PUO. The etiology is mainly divided in five groups, hematological malignancies, topping the list. Next comes the role of infective diseases followed by connective tissue disorders. Miscellaneous (10 – 15%) and undiagnosed (10 – 20%) causes account for the rest of the disease load [1]. Our experience, however, gives a higher seat to the infectious causes as compared to malignancies. The intraabdominal infections are the most common infective pathology found to cause PUO [2], [5], [6]. This is true of our case as well. RIFB is an important cause of intra abdominal septic foci [5], [6]. Cases reporting an ingested sharp metallic body perforating the gut, though present in the literature are surprisingly rare [5]. Perforation and migration of such a foreign body may be silent. Patients may present with unrelated symptoms and the discovery of foreign of foreign body on radiological examination of the abdomen may come as a surprise [5]. History of introduction of FB is usually difficult to obtain. Such intra abdominal FB can lead to insidious unrelated presentation as PUO as seen in the present case or more catastrophic events like perforating the bowel and migrating to almost any intra abdominal or rarely to even extra abdominal sites. Migration to the liver, mesentery or the anterior abdominal wall, however is extremely rare [6], [7], [8]. A loop of small bowel may get entangled across the FB and become necrotic. Variable time periods ranging from months to years have been reported between the introduction of a foreign body and the occurrence of symptoms. A case is reported in which a patient seemed to show the clinical picture of a colonic tumor, but was found to have a retained laparotomy pad from an exploratory operation which had been performed nine years earlier [7]. Common modes of entry of FB are ingestion, poor surgical technique and accidental introduction. Few case reports of intra abdominal migration of IUD have been reported in literature [8]. Few other case reports have also shown attempted illegal abortion as a cause of intra abdominal FB [8].

The patient in the present report had never undergone any other surgical procedure therefore we were left with no other possibility than to assume that a foreign body introduced during one of the

abortions might have perforated the uterus. The heterogeneous myometrial echotexture described on USG could be due to an old healed perforation. Metals and glass fragments until extremely small are easily seen while plastic and wood are radiolucent and are only seen by CT scan or USG [3], [4]. A plain radiograph of a sample piece of suspected FB, if available, is quite useful. Radiograph with the point of entry marked by a radiopaque marker and immediate preoperative radiograph should also be taken to decide the location and trajectory of removal. This is a useful exercise because certain foreign bodies may migrate or even embolise to distant sites [4]. USG has a problem solving and a corroborative role [3]. FB usually throws sharp distinct specular echoes with sharp acoustic shadows. Distal reverberation artifacts are a common finding. **The diagnosis however is greatly facilitated by a detailed clinical history and examination which dictates subsequent investigations.** Thus we were able to solve the mystery of this intriguing case and could explain her symptomatology.

Photographs: All images were obtained after informed consent of the patient.

Conflict of Interest: None declared

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