

Research Paper—Medical, Surgery



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Left Sided Acute Appendicitis In Situs Inversus Totalis

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A B S T R A C T

Situs inversus totalis is an extremely uncommon, congenital anatomic anomaly that complicates diagnosis and management in emergency situations, more so in case of acute abdominal pain. Thus, awareness of the multiple etiologies, common and uncommon, and their unusual and sometimes confounding presentations is critical for the Emergency Surgeon. We present the case of a 45-year-old female with situs inversus totalis and left-sided acute appendicitis.

KEY WORDS : *situs inversus, appenditis*

INTRODUCTION

Acute Abdominal pain is one of the most common chief complaints of patients presenting to the Emergency Department (ED). Causes are multiple and diverse, with the patient's age, sex, and presence or absence of underlying disease all influencing the differential diagnosis.

Left-sided appendicitis occurs in association with two types of congenital anomalies, situs inversus and intestinal malrotation. Because the appendix is located in an abnormal position, it is difficult to obtain an accurate diagnosis of left-sided appendicitis. Situs inversus totalis is a rare

anatomic anomaly with an estimated incidence of 1:20,000 in the general population and an autosomal recessive mode of inheritance. Visceral situs inversus can occur with or without dextrocardia.

Intestinal malrotation is a congenital anomaly referring to either non-rotation or incomplete rotation of the primitive intestinal loop around the axis of the superior mesenteric artery during fetal development. While most cases of intestinal malrotation present with bilious vomiting in the first month of life, rare cases present in adulthood. It is important that physicians be aware of the possibility of this disease when treating adult patients

with abdominal pain because diagnosis of intestinal malrotation can be difficult.

CASE REPORT

A 45yr old female came to our emergency department with chief complaints of lower abdominal pain more in left iliac fossa since 3 days aggravated since 6 hrs. She also complained of burning micturition since 2 days. General examination shows temperature 38 degree centigrade. Pulse was 100/min. Physical examination showed marked tenderness in left iliac fossa. Maximum point of tenderness corresponding to mirror image McBurneys point.

Laboratory examination showed 11600 per mm3 with 90 % neutrophils. X ray chest showed dextrocardia without any other abnormalities. 2 D echo confirms dextrocardia, mild TR. Abdominal ultrasonography showed : tubular aperistaltic structure with luminal diameter of 7.2 mm is seen in left iliac fossa with probe tenderness. Spleen seen in right hypochondrium, liver and gall bladder in left hypochondrium.

CT Scan showed findings consistent with situs inversus totalis with appendicitis.

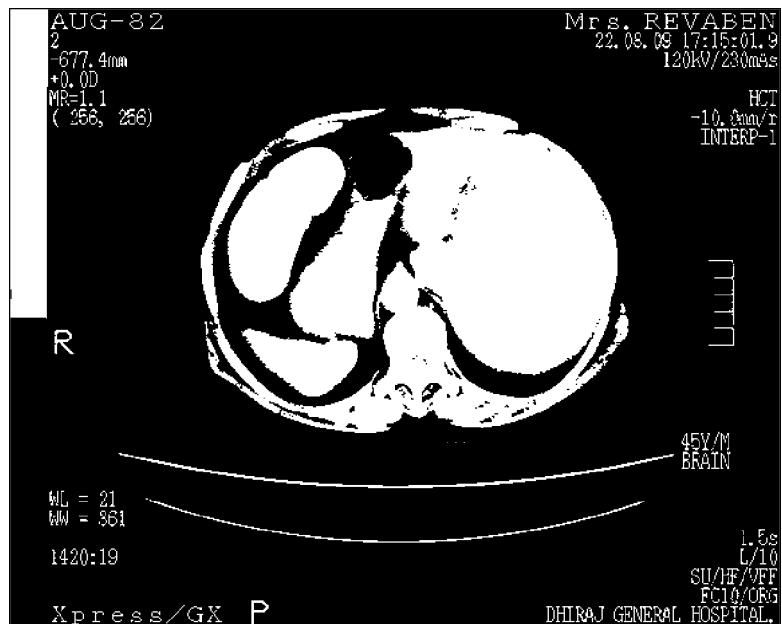
As we already arrived at the diagnosis of acute appendicitis in situs inversus totalis, we decided to go ahead with left side appendicectomy by Mcburney’ incision, instead of exploratory laparotomy which is the usual protocol in emergency.

At operation, left side gridiron incision was made, caecum was identified In left iliac fossa and appendix was traced and found inflamed. Appendicectomy was done. Distal part of the terminal ileum was seen for meckels diverticulum. Post operative recovery was uneventful. Patient was discharged 2 days after check dressing.

DISCUSSION

Appendicitis, including both right-sided and left-sided, has classical presentation which includes the gradual onset of vague peri-umbilical abdominal pain localizing to the right lower quadrant over approximately 24 h, associated with nausea, vomiting, anorexia, and diarrhea. A number of clinical and laboratory based scoring systems have been devised to assist diagnosis.

The most widely used is the ALVARADO SCORE. The score of 7 or more is strongly predictive of acute appendicitis. Situs inversus totalis is a rare anatomic anomaly with an estimated incidence of 1:20,000 in the general population and an autosomal recessive mode of inheritance. Visceral situs inversus can occur with or without dextrocardia. Situs inversus is caused by a clockwise rotation of the viscera during early embryonic life, resulting in a “mirror image” of the normal bowel.

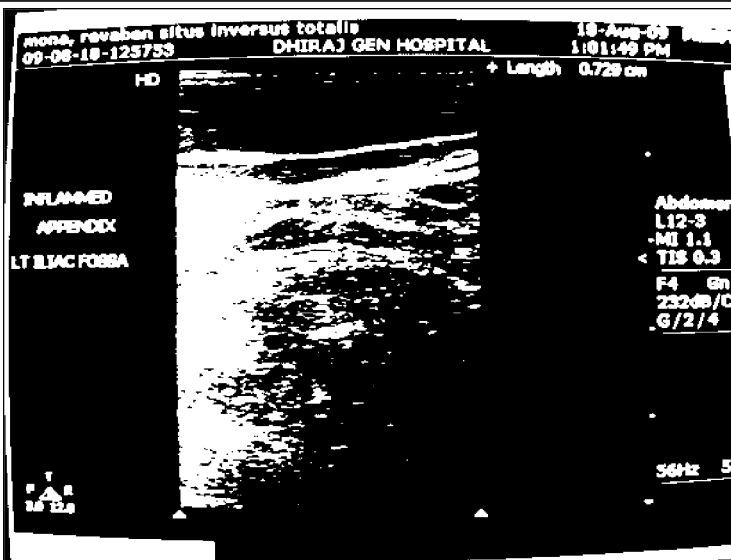


The diagnosis of acute appendicitis in situs inversus totalis can be difficult because of abnormal pain localization. Malrotation of the intraabdominal viscera is not accompanied by corresponding changes in the nervous system. In our case, we first diagnosed situs inversus totalis and then diagnosed left-sided acute appendicitis. Electrocardiogram, radiographic studies, computed tomography (CT) scan with oral and intravenous contrast, ultrasound, and barium studies can help to diagnose situs inversus. In our case, we were

successful in pre operative detection of DextroCardia, and the presentation of left sided tenderness at mcburney's point made us suspect the possibility of situs inversus. Ultrasonography of the abdomen and a barium study confirmed situs inversus totalis, whereby confirming the diagnosis of Acute Appendicitis preoperatively. We could therefore avoid the morbidity of an exploratory laprotomy, and carried out a successful appendicectomy by left mcburney' incision.

CONCLUSION

Appendicitis is the most common abdominal surgical emergency presenting to the Casualty/emergency department of a teaching institution like ours. Early clinical suspicion, accurate ob-



servations and repeated review are indicated in patients with uncertain and uncommon clinical features. However the classical signs and symptoms are not always present in all the cases. Here recent advances like the use of multi slice C.T.image guidance and if feasible diagnostic laparoscopy, can enhance our accuracy of diagnosis. In our case we competently diagnosed situs inversus totalis with Contrast enhanced C T Scan, and acute appendicitis on clinical suspicion and meticulous judgement. We could successfully perform left sided appendicectomy, by mcburney's approach. Adverse outcomes arising out of late or mis-diagnosis like appendiceal rupture, abscess formation peritonitis and septicaemia could be avoided.

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