CASE REPORT

Situs Inversus with Sigmoid and Transverse Colon Volvulus: A Case Report

Tashaba Qaiser Faizi

ABSTRACT

Situs inversus can be defined as the interchanging of right and left symmetry of organs in thorax and abdomen. It is among the infrequent embryological disorders that a surgeon encounters in surgical practice. In this case report, an old male with apparent diagnosis of sigmoid volvulus was found to have situs inversus when he underwent explorative laparotomy.

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BACKGROUND

Situs inversus is an embryological disorder that is found infrequently. It can be defined as the interchanging of right and left symmetry of organs in thorax and abdomen. Multiple theories exist regarding its cause pertaining to genetic changes in early foetal life. Because of its rarity, it presents as a diagnostic dilemma to surgeons in clinical practice[1].

CASE REPORT

A 70 years old male with no known co-morbidity presents to the Accidents and Emergency Department of Jinnah Postgraduate Medical Centre complaining of abdominal pain for seven days. The pain had started in the peri-umbilical region and later on became diffused and constantly associated with multiple vomiting episodes which were not connected with taking food. He had a history of appendectomy at the age of 16, but the record was not available.

On clinical examination, pulse was 110 beats per minute, blood pressure 110/70 mm of HG, respiratory rate 32 breaths per minute, abdomen was distended with generalized tenderness all over the abdomen with absent gut sounds. Findings were suggestive of peritonitis. On digital rectal examination, finger stocking had fecal staining positive. Laboratory investigation showed haemoglobin of 13gm/dl and total leukocyte count of $10x10^6$. The rest of the investigations were unremarkable. Abdominal X ray (Fig 1.1) shows coffee bean appearance raising the suspicion of sigmoid volvulus. All of the points in the history, examination, and on radiological imaging, were suggestive of peritonitis secondary to sigmoid volvulus. Patient underwent explorative laparotomy which showed situs inversus total with spleen on the right, liver on the left, caecum on the left, and feculent contamination of abdominal cavity due to transverse colon perforation. The whole large gut was massively dilated with volvulus of transverse and sigmoid colon along with necrotic extending from hepatic flexure till sigmoid colon (Fig 1.2, 1.3, 1.4). Colectomy was done, alongwith end colostomy and distal rectal stump closure. On third post-operative day, the patient developed burst abdomen, with massive edema of whole gut with purulent flakes all over the gut shown in Fig 1.5, which was treated with abdominal washout and bagota bag dressing (sterile plastic bag covering the whole gut). Patient developed pneumonia for which he was treated. From the second post-operative day, the gut edema started resolving as shown in Fig 1.6. The patient managed with daily dressing and symptomatic treatment. On day seven, he developed productive cough which showed pseudomonos. On the basis of sputum culture and sensitivity, antibiotics were given. Daily chest X-rays and complete blood picture were done to monitor the response. Initially, the patient showed improvement, but later on he developed sepsis secondary to pulmonary infection and died due to pulmonary complications on the 30^{th} post-operative day.

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Fig 1.1: Coffee bean sign

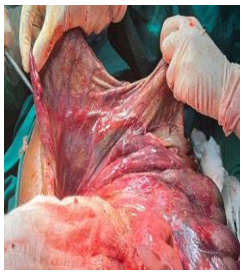
Fig 1.2: thinned out gut


Fig 1.3: Liver on left side


Fig 1.4: Spleen on right side

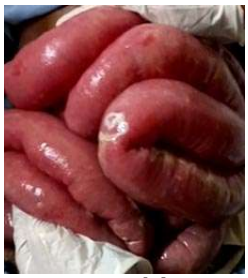
Fig 1.5: Burst abdomen

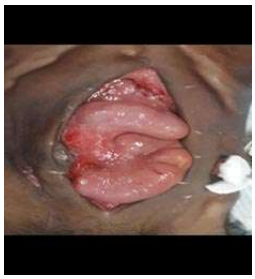
Fig 1.6: Edema resolution

DISCUSSION

Situs anomalies refer to a group of disorders which range from situs solitus which means normal symmetry of organs, solitus ambigus which refers to the contradictory relationship of cardiac atria to viscera, and situs inversus totalis which is a rare entity with different frequency in different regions[2,3]. The frequency is 1 in 25,000 patients with no difference in age or race[4]. This patient presented with the history of abdominal pain in periumbilical region, which later on became diffused. No clue about anatomical rarity was evident from history.

SIT is not a separate entity. It is associated with multiple diseases affecting cardiovascular and hepatobiliary systems[5]. It can be associated with either dextrocardia or levocardia, while situs inversus with dextrocardia is more common[6]. Situ inversus can be associated with midgut malrotation but the conditions do not necessarily accompany each other, as abnormality in malrotation is the inability of the gut to undergo counterclockwise rotation. Management per operatively changes when these are encountered together. Gut has to be derotated and large gut has to be fixed on the left and small on the right[7]. In a study done to calculate post-op pulmonary complications risk for elective and emergency laparotomies, it was found that emergency laparotomies carry higher risk for pulmonary complications than elective[8].

Consent: Consent related to the pictures and history was taken from the family.

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