



CASE REPORT

Gunshot Abdomen in a Patient with Situs Inversus Totalis

T Gvilia, MD, FS, PhD* and M Tun, FCR, FCS

Leratong Hospital, Johannesburg, South Africa

*Corresponding author: T Gvilia, MD, FS, PhD, Surgeon, Leratong Hospital, Johannesburg, South Africa



Introduction

Situs inversus totalis is a congenital condition in which major visceral organs are reversed or mirrored from normal position. The incidence accounts from 1/8000 to 1/25000 live born infants [1].

Individuals with situs inversus can live normal healthy lives, without any complications related to their medical condition [2].

A 5-10% incidence of congenital heart disease is observed in situs inversus with dextrocardia usually with transportation of the great vessels [2,3].

Case Report

A 33-year-old male was transferred from provincial hospital after being shot by gun to the abdomen [4]. On the arrival condition was stable. BP 110/77 mmHg and a pulse of 60/minute; GCS 15/15; Sats 99%.

Initial examination of an abdomen showed gunshot wound on left upper quadrant of anterior axillary line, without outlet. Tenderness mostly upper part, non-distended, no peritoneal signs.

Done X-rays of chest and abdomen. Findings: Dextrocardia and gastric air bubble on right upper qua-

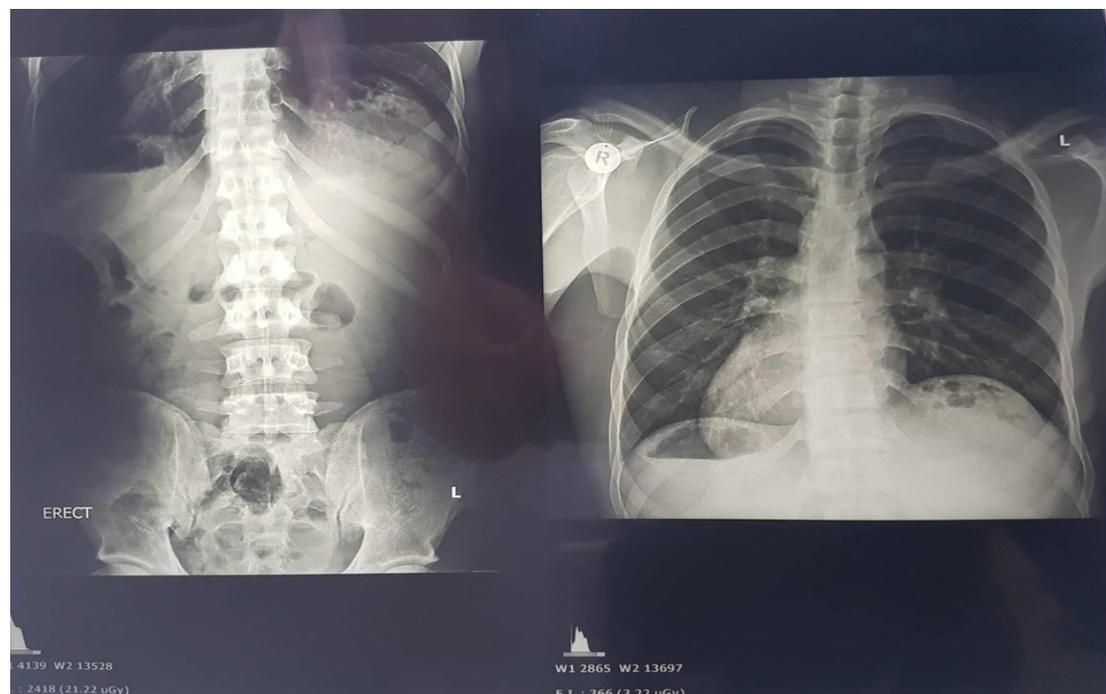


Figure 1: Abdominal and chest X-ray showing gastric air bubble on right upper quadrant, and dextrocardia.

drant, bullet seen the same side [2,5] (Figure 1).

Patient left under observation while awaiting CT was given IV fluids, bladder catheterisation, blood works [6]. Later the patient developed peritoneal signs, HB dropped to 8.5. Done FAST: Free fluid into abdomen.

He was taken to theatre, and a laparotomy was performed. Into abdomen about 2 litres of blood, visualization of situs inversus totalis (Figure 2). Grade III liver injury segment V with small bleed. Hepatoduodenal ligament appeared hematoma. There was expanding hematoma around the spleen with oozing of blood.

Done right medial visceral rotation found damage at the hilum of spleen and tail of the pancreas. Splenectomy with resection of the tail was performed, bullet removed.

The Hepatoduodenal ligament explored no damage noticed. Kocher maneuver performed. The splenic bed, and infra hepatic space were drained.

Post-operation patient developed bile leak which stopped after one week. He was discharged in normal condition day 15 after operation.



Figure 2: Visualization of situs inversus totalis, left sided liver position.

Discussion

Surgical management in SIT is difficult due to anatomical difference and position of organs [6]. In English language literature reported only one case of gunshot abdomen with above mentioned condition [7].

The present case SIT was diagnosed preoperatively on a Chest and Abdominal X-rays [8-10].

Some difficulties mentioned during the surgery. Due to different location of an anatomical structure. Left standing gave a better access for performing operation [6].

Occasional finding was congenital malformation the first portion of the duodenum instead of continuing leftward horizontally changed direction and extending superiorly, appearing retroperitoneal space [10].

In conclusion presented case is extremely rare and demonstrates surgical challenge in a patient with SIT.

References

1. Ribas-Filho J, Maluf-Junior I, Ribas F, Czczeko A, Kuradomi I, et al. (2011) Firearm injury patients with situs inversus totalis-case report. *ABCD Arq Bras Cir Dig* 24: 249-250.
2. Shogan Paul J, Folio Les (2011) Situs inversus totalis. *Mil Med* 176: 840-843.
3. Kamath B, Chatterjee AS, Chandorkar Iti (2015) Splenic injury in Situs inversus totalis-A surgical challenge. *J Clin Diagn Res* 9: 01-02.
4. Hashizume Naoki, Asagiri Kimio, Komatsuzaki Naoko, Fukahoria S, Ishiia S, et al. (2016) Blunt Splenic injury in a child with situs inversus totalis treated with transcatheter arterial embolization. *Journal of Pediatric surgery Case Reports* 13: 21-24.
5. Wilhelm Annamaria (2018) Situs Inversus imaging. *Medscape*.
6. Kulick DM, Park SJ, Harrison BS, Shumway SJ (1998) Traumatic aortic and diaphragmatic rupture in a patient with dextrocardia and situs inversus: Case resport. *J Trauma* 45: 397-399.
7. Srivastva Vaibhav, Kumar Pankaj, Dosar Sanjay (2010) A case of splenic rupture in patient of situs inversus. *Indian J Surg* 72: 326-327.
8. Jones DJ, Daum RE (1987) Transection of the retrohepatic vena cava in a case of total situs inversus following blunt trauma. *J R Army Med Corps* 133: 161-162.
9. Turk Figen, Yuncu Gökhan, Ozturk Gökhan, Ekinci Yasin, Semerkant Tolga (2012) Total situs inversus found coincidentally following a firearm injury. *J Forensic Sci* 58: 232-233.
10. Wu Wei, Zhibao Lv, Weijue Xu, Jiangbing Liu, Wei Jia (2017) VACTER syndrome with situs inversus totalis. *Medicine* 96: e7260.