

Left Thoracic Kidney with Partially Intrathoracic Spleen with Diaphragmatic Defect- Rare Entity

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Abstract:

➤ Introduction:

Intrathoracic kidney is a rare type of renal ectopia. Occurs due to congenital diaphragmatic defect which causes herniation of abdominal contents. Most common on left side and in male patient, usually asymptomatic.

➤ Case Report:

A 42-year-old male patient presented to our hospital with abdominal pain, CT scan of abdomen showing left side elevation of hemidiaphragm with intrathoracic kidney, spleen, tail of pancreas, splenic flexure. We have done exploratory laparotomy with reduction of intraperitoneal herniated contents with placcation of left hemidiaphragm. Post follow up patient was stable.

➤ Discussion:

Renal ectopia is very rare findings usually found accidentally in radiological images or while doing thoracotomy.it occurs due to congenital or acquired causes. In acquired because it occurs due to injury to diaphragm. On congenital causes when there is delayed closure of diaphragm causes delaying in mesonephron closure leads to diaphragmatic hernia with intrathoracic kidney and other abdominal contents.

➤ Conclusion:

Intrathoracic kidney with spleen and other structures are very rare, accidental findings, most common due to congenital causes, in male patients and more in left side than in right side and usually patient have no any complain related to it.

Keywords: Ectopic Kidney, Thoracic Kidney, Diaphragm Defect, Intrathoracic Spleen, Eventration of Left Hemidiaphragm.

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I. INTRODUCTION

Thoracic kidneys are a very rare type of renal ectopia. Most patients with intrathoracic kidney are asymptomatic. Ectopic kidneys are mostly accidental findings either while doing thoracotomy or after radiological imaging like ultrasound, CT scan, MRI, IV urography. Generally, no surgical interventions are required. Ectopic kidneys are due to congenital or acquired cause. In congenital it is associated with diaphragmatic defect which later causes diaphragmatic hernia. In acquired causes include rupture of diaphragm due to trauma.

II. CASE REPORT

A 42-year male patient came with abdominal pain for 1 week to our hospital, PDU Medical College and Hospital, Rajkot with no any other complain, no significant past and personal history. Patient underwent radiological imaging in which CT abdomen and pelvis suggest left side elevation of hemi diaphragm which was associated with herniation of abdominal contents including pancreatic body, spleen, left side kidney, splenic flexure into left side hemithorax.

We have done Fluoroscopy to check for eventration of left side hemidiaphragm. We have done diagnostic

laparoscopy to confirm intrathoracic kidney and spleen with elevation of left side hemidiaphragm after which exploratory laparotomy was done and multiple adhesiolysis was done after that reduction of intraperitoneal hernial contents was done and plication of left hemidiaphragm was done using stratafix 1 suture material drain was kept. Patient started on diet on day of surgery and drain was removed after 4 days. In follow up, patient does not have any complain.

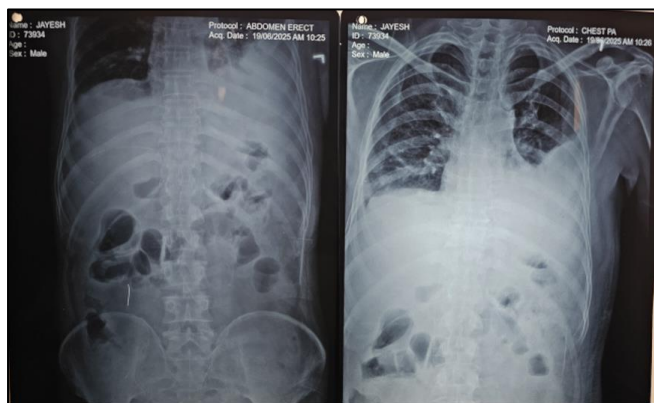


Fig 1 Chest X-Ray Showing Elevation of Left Hemidiaphragm



Fig2 Fluoroscopy Showing Eventration of Left Hemidiaphragm

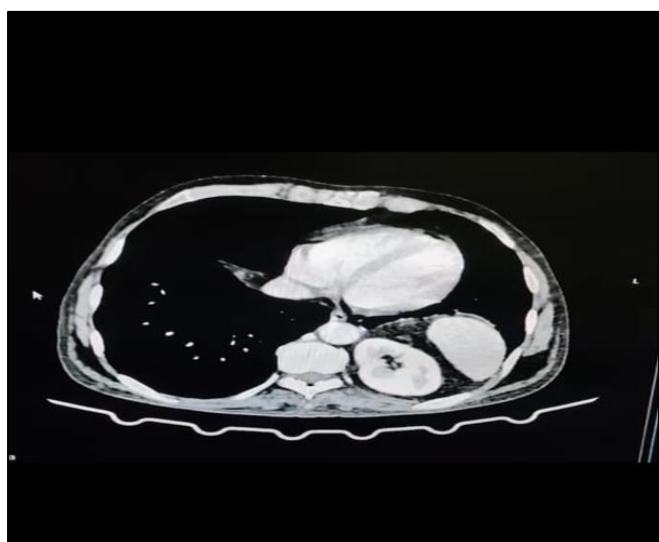


Fig 3 CT Abdomen and Pelvis Showing Intrathoracic Kidney and Spleen

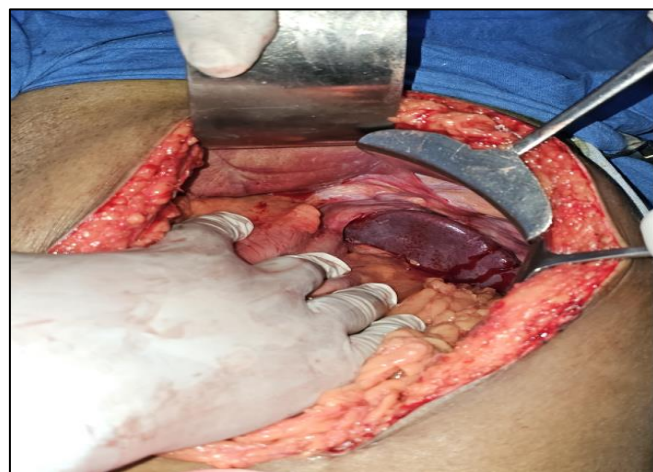


Fig 4 Image Showing Intra-Op Kidney and Spleen Inside Thoracic Cavity

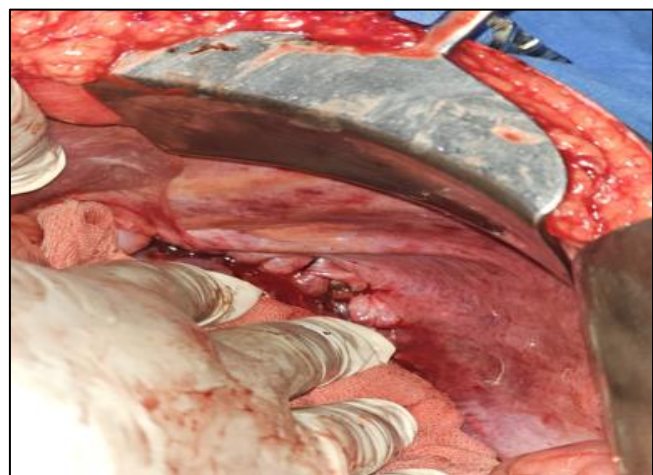


Fig 5 Plication of Left Hemidiaphragm

III. DISCUSSION

Ectopic intrathoracic kidneys are very rare findings. It occurs in less than 5% of renal ectopia. It is found in autopsy as 1 in 13-15000 cases. It occurs more in male in comparison to female and most common in left side than right. Intrathoracic kidneys are due to congenital causes and sometimes occurs due to acquired causes. In acquired cause trauma of diaphragm is more common. In embryogenesis of kidney in 5th gestational week they are in the pelvis and then migrated cranially, on 3rd month it reaches up to L2 spine and associates with suprarenal glands. But if there is delayed closure of diaphragm or accelerated ascent of the kidney causes intrathoracic placement. Diaphragmatic malformations lead to delayed disappearance of mesonephrons which leads to defect in diaphragm causes herniation of abdominal contents such as kidneys, renal artery, ureter.

Patients with intrathoracic kidney and spleen are generally asymptomatic and do not require any intervention. In our case 42 years male patient present with abdominal pain and CT (A+P) suggest left side eventration of hemidiaphragm with intrathoracic kidney, spleen, splenic flexure, pancreatic body and tail region.

We have done diagnostic laparoscopy to look for herniation of abdominal contents and we have done exploratory laparotomy after which reduction of herniated intraperitoneal structure was done and plication of left side hemidiaphragm was performed.

IV. CONCLUSION

Renal ectopia, specifically intrathoracic are very rare entity and it is found most commonly on left side with left side elevated thin out hemidiaphragm with defect causes herniation of abdominal contents like spleen and other structures. Most common cause is congenital diaphragmatic defect.

➤ *Registration of Research Studies:*
N/A.

➤ *Author Contribution*
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➤ *Guarantor*
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REFERENCES

- [1]. Thoracic kidney. A report of 2 cases. S Afr Med J 1987; 727:505–506.
- [2]. Liddell RM, Rosenbaum DM, Blumhagen JD. Delayed radiologic appearance of bilateral thoracic ectopic kidneys. AJR Am J Roentgenol 1989; 152:120–122.
- [3]. Fleischner FG, Robins SA, Abrams M. High renal ectopia and congenital diaphragmatic hernia. Radiology 1950; 55:24–26.
- [4]. N'Guessen G, Stephens FD, Pick J. Congenital superior ectopic (thoracic) kidney. Urology 1984; 24:219–228.
- [5]. Yalcımbas YK, Sasmaz H, Canbaz S. Thoracic left kidney: a differential diagnostic dilemma for thoracic surgeons. Ann Thorac Surg 2001; 72:281–283.
- [6]. Jefferson KP, Persad RA. Thoracic kidney: a rare form of renal ectopia. J Urol 2001; 165:504.
- [7]. Shimura S, Yoshida K, Kadowaki K, et al. Right thoracic kidney with simple renal cyst: report of a case. Hinyokika Kiyo 1990; 36:1321–1324.
- [8]. Sırıkçı A, Sarıca K, Bayram M. Thoracic kidney associated with superior ectopic spleen. J Urol 2000; 163:1901.
- [9]. Siegel A, Lewis P. Thoracic kidney detected on bone scan. Clin Nucl Med 2000; 25:138–139