Case Report

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Congenital Partial Intercostal Liver Herniation

Bal Mukunda Basnet,[1] Bishnu Prasad Kandel,[2] Gajendra Chaudhary,[1] Prashant Simkhada,[1] Sandesh Gyawali,[1] Bibek Koirala[1]

[1]Department of Surgery, Kanti Children's Hospital, Maharajgunj, Kathmandu, Nepal, [2]Department of GI and General Surgery, Tribhuban University Teaching Hospital, Maharajgunj, Kathmandu, Nepal

ABSTRACT

Congenital intercostal liver herniation is a rare entity. The exact etiology of congenital intercostal liver herniation is unknown. Left sided intercostal herniation is even rarer. We present a case report of an eight-day old female who presented to the emergency department of Kanti Children's Hospital with tissue mass protruding through a defect in the left side of anterior chest wall since birth. Sonographic and radiological investigation revealed the tissue to be an extension of the part of the left lobe of the liver with decreased vascularity. There were no other congenital anomalies. Laparotomy with thoracotomy with resection of the non-viable herniated part and closure of defect was done. During postoperative period patient developed surgical site infection and wound dehiscence for which daily dressing and later secondary suturing was done.

Keywords: Intercostal liver herniation

INTRODUCTION

Congenital herniation of the liver or parts of the liver through the chest wall is an extremely rare entity. The etiology of congenital intercostal liver herniation is unknown.[1,2] Herniation of the liver or parts of the liver into the chest cavity is well known as a complication of congenital or post traumatic diaphragmatic hernia (CDH).[3-5] Preoperative computed tomography(CT) scan allows correct identification of intercostal liver herniation.[6] In cases of left anterolateral chest wall defects with protruding mass, intercostal herniation of liver tissue should be included in differential diagnosis.

CASE REPORT

An eight-day female child presented to the emergency department of the Kanti Children's Hospital with complaints of protrusion of mass of tissue from left side of the anterior chest wall since birth. On examination, patient's vitals were stable,;general condition was fair and without pallor, icterus, cyanosis, dehydration or edema. On systemic examination, the abdomen was non-distended, soft without organomegaly and normal bowel sound. On cardiovascular examination, first and second heart sounds were heard with no murmurs. On examination of the chest, there was a mass about 4x3 cm in size protruding through the left anterior chest wall just above the level of the nipple without skin covering. Mass was firm to touch and the stalk of the mass bleed when touched and there were no pulsations in the mass. Ultrasonographic examination of the mass revealed protrusion of soft tissue 3x3cm through defect in anterior chest wall having continuation with left lobe of liver. Contrast enhanced computed tomography revealed herniated left lobe of liver through the left anterolateral chest wall, features of Ectopia hepatica extrathoracic (Figure1). Hepatology consultation was done and the child was advised for "laparotomy with thoracotomy and proceed".

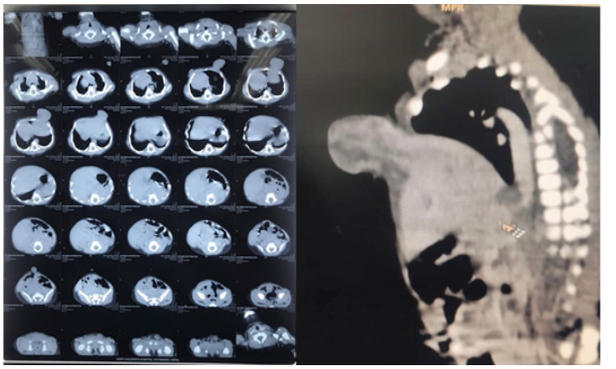

Figure1. Pre-operative contrast enhanced CT scan of abdomen and pelvis

The midline incision extending from supraumbilical level to just below the xiphoid process was given which was

Correspondence: Dr Gajendra Chaudhary, Department of Surgery, Kanti Children's Hospital, Maharajgunj, Kathmandu, Nepal. Email:drgajendra26@gmail.com, Phone +9779860341523

then extended obliquely cutting through two costal cartilage to the left side to reach the mass at the level of nipple. Intra-operatively hepatic tissue of 4x3 cm size attached to the left lobe of the liver which protruded through 4th left intercostal space without piercing the diaphragm was noted (Figure 2).

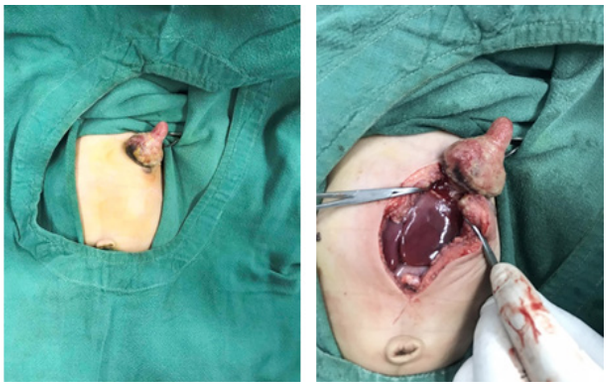

Figure 2.Intraoperative findings.

Resection of the protruded region was done. Hemostasis was maintained. The chest wall defect was closed in two layers by approximation of the edges. Incision site was closed in layers. Skin was closed by subcutaneous sutures and the patient was transferred to the Surgical ICU. Patient was receiving fluids, analgesics and antibiotics (3rd generation cephalosporin). On the third postoperative day the child developed surgical site infection (Figure 3).

Figure 3.Closure of the wound and wound dehisence on 3rd post operative day

Pus culture and sensitivity was sent which showed Enterobacter species. Antibiotics were started according to sensitivity reports. Wound dressing was done daily till healthy granulation tissue was achieved. During this time baby was under breastfeeding. Histopathology reports showed moderate inflammation, proliferation of bile duct, cholestasis, fibrosis and variable sized vascular channel without any atypical cells. Secondary suturing was done on 24th post-operative day. Patient did well after that and the patient was discharged on 9th day following secondary suturing (Figure 4).

Figure 4. Secondary suturing on 24th post operative day and picture of 3 months follow up.

DISCUSSION

Intercostal congenital liver herniation is a rare entity.[1]It might be missed in the antenatal investigations and be seen at birth. The patient was on regular antenatal care at primary care center and the condition was not revealed in the latest antenatal USG.

In case report by Ertan et al, reporting of two cases of right sided intercoastal herniation was done.[6] In their case the herniated part was only repositioned back however we opted for resection of the segment as it was pedunculated and some part was non-viable. Also its size was large compared to free space available in the abdominal cavity. They also have done the inferior chest wall dissection similar to ours.[6]

In both of their cases diaphragmatic eventration was seen in contrast to ours. Left dome of diaphragm was continuous and there was no evidence of breach.

CT chest and abdomen is helpful for delineating origin and anatomy of the mass and surgical approach. Radio-contrast study gives better assessment of viability and vascularity of the pedunculated mass and guide for the preservation or excision.

CONCLUSIONS

In cases of left anterolateral chest wall defects with protruding mass, intercostal herniation of liver tissue should be included in differential diagnosis. In such case, laparotomy with thoracotomy and repositioning into abdominal cavity with/ without resection of protruded part depending upon tissue viability might be treatment

option.

REFERENCES

1. Puder M, Greene A, Mooney D. Hepatic exostrophy complicating Poland's anomaly. J Pediatric Surg. 2002;37(8) 1203-4. 12149703
2. Bamforth JS. et al. Poland anomaly with a limb body wall disruption defect: case report and review. Am J Med Genet. 2002;37(8):1203-4. 1642261
3. Smith E. et al. Post-traumatic intercostal liver herniation. ANZ J Surg. 2008;78 (7):615-616. 18593423
4. Losanoff JE, Richman BW, Jones JW. Recurrent intercostal herniation of the liver. Ann Thoracic Surg. 2004;77 (2):699-701 14759465
5. Sharma OP, Duffy B. Transdiaphragmatic intercostal hernia: review of the world literature and presentation of a case. J Trauma. 2001;50 (6):1140-114 11426131
6. Ertan G, Sinzig M, Tekes A, Huisman TA. Congenital intercostal liver herniation: report on two neonates.Eur J Pediatr Surg. 2010 May;20(3):196-8. 19882504