LEFT VENTRICULAR EXTENSION INTO THE ABDOMEN

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ABSTRACT
A rare developmental anomaly of the heart is described. It consisted of a tube like extension of the left ventricular apex toward the umbilicus superficially under the anterior abdominal wall abutting anterior surface of the liver and contracting synchronously with the myocardium. It is associated with a membranous subaortic ventricular septal defect and a centrally localized heart in the anterior mediastinum (figure 1). Three similar cases were reported in the fifties of the last century. Although there were different associated anomalies with the other three cases but all four cases were similar in the presence of the elongated ventricle in a tube like structure superficially into the abdomen suggesting a similarity in development.

Keywords: Congenital heart disease, Left ventricular extension, Ventricular Septal defect.

INTRODUCTION
Our case is a male patient 6 years old, he is the first child of healthy Ethiopian family and has a healthy sister aged 2 years old. He was born after a normal pregnancy and was delivered normally. Few months after delivery, his mother was told that her baby has ventricular septal defect and he is in need for follow up. Recently, his mother came to our outpatient clinic complaining of pulsating mass in the epigastric area. Clinically, patient is an active child with normal weight and height for age (113cm height and 22kg weight), pulse was 81/m, and blood pressure in the arms was 100/80. Apical impulses was palpated in the left and right 4th intercostal space medial to the mid clavicular line with palpable thrill over the anterior chest wall (left and right parasternal area).

By auscultation there is harsh systolic murmur grade 4/6 all over the anterior chest wall (left and right parasternal area). The heart rate was 100/80. Apical impulses was palpated in the left, and the pulmonary artery larger than the left, and the pulmonary artery larger than the left, and the pulmonary artery larger than the aorta. The aorta was palpable in the midsternal line with palpable thrill. The radius was 22 cm and upper limb pulses were palpable. The growth parameters were normal height for age (113cm height and 22kg weight).

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aorta. The case reported by Clifford Parsons³ (1958) there were tricuspid atresia and the right pulmonary vein was connected to the right atrium, big atrial septal defect (ostium secondum), hypertrophied left ventricle, diminutive right ventricle and hypoplastic pulmonary artery.

The similarity between these four cases is sufficient to suggest a common defect in development as it was suggested by Clifford Parsons³ (1958). He explained the occurrence of this deformity in early embryonic life when heart develops in the neck and migrates to the thorax in close association with the septum transversum, which forms a diaphragm separating the heart from the abdominal cavity and the yolk sac. The separation becomes more marked when, in the seventh week, the rapidly growing liver bulges forward and interposes between the heart and the stalk of the yolk sac. This elongated ventricular loop occurred if the developing heart being caught up in the structures of the yolk sac (umbilical structures) and it would be drawn out in front of the rapidly growing liver as the embryo straightened.

However, the therapeutic strategy that we suggest for this patient is to operate him surgically for closure of the VSD and removal of this ventricular extension because this superficially extended part of the left ventricle lying just under the anterior abdominal wall is liable to trauma and carry the risk of rupture and/or initiating severe arrhythmia.

Figure 1 Diagrammatic representation of the anomaly.

Figure 2 12 leads standard ECG.

Figure 3 ECG with right chest leads.

Figure 4, Posteroanterior X ray chest.
Figure 5 Parsternal view showing the VSD.

Figure 6 Parasternal short axis view to show the VSD flow.

Figure 7 M mode on the LV at the tips of the MV leaflets.

Figure 8 the length of the tube like extension of the LV apex.

Figure 9 The apex of the LV is connected to a tube like structure with blood flow inside.

Figure 10 Short axis view on the tubal extension of the LV infront of the liver.
A rare congenital anomaly of the heart is described. It consisted of a tube-like extension of the left ventricular apex in the middle line toward the umbilicus under the anterior abdominal wall, associated with a membranous subaortic ventricular septal defect and a centrally localized heart in the anterior mediastinum.

REFERENCES