

ABSENCE OF CARDIAC NOTCH IN LEFT LUNG- A CASE STUDY

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ABSTRACT

This is a case study of absence of cardiac notch in anterior border of left lung met at the time of dissection of cadaver nearly 40 year old Indian male having changes in left lung in anatomy department. In which, the left lung didn't have cardiac notch and right lung seemed normal.

Key words: Absence of cardiac notch, left lung, right lung, anterior border.

INTRODUCTION

The respiratory system is meant primarily for the oxygenation of blood. The chief organ of the system is the right and left lungs. The lungs lies in the corresponding halves of the thorax.They are separated from each other by structures in the mediastinum. In young, the lungs are brown or gray in color. Gradually they become mottled black. Each lung is conical in shape. It has apex, base and three borders - anterior, posterior and inferior. Anterior border of right lung is vertical. In left lung anterior border shows a wide cardiac notch below the level of the fourth costal cartilage the heart and pericardium are uncovered by the lung in the region of this notch. [Area of superficial cardiac dullness]

Lung has two surfaces - costal, medial. Medial surface is divided into vertebral and mediastinal. Right lung is divided into three lobes by two fissures; oblique and horizon-

tal. Left lung is divided into two lobes by oblique fissure^[1]. In this case there is absence of cardiac notch on the anterior border of left lung. The anterior border of the right lung was normal.

METHODOLOGY: During a routine dissection at the department of Anatomy at CSMSS Ayurved Mahavidyalaya, Aurangabad absence of cardiac notch in left lung was observed. The cadaver donated to the department of Anatomy was that of 40 year old Indian male.

After dissection of anterior wall of thorax, the ribs were cut by the rib cutter, scalpel etc from mid axillary line^[2]. The lungs with pleura were studied. After separating the paritalpleura,lungs were observed. While studyingthe anterior border of left lung, itdid not have cardiac notch on its anterior border.

OBSERVATION: After removal of anterior thoracic wall on the anterior border of left lung cardiac notch was absent. Remaining

structures of left lung were normal and right lung were normal.

Right lung

- Shape - Conical in shape.
- Apex was blunt and lied above the level of the anterior end of the first rib.
- Base was semilunar, concave and formed by lower lobe.

Fissure – 2

- Oblique fissure
- Horizontal fissure

Lobes – 3

- Upper lobe
- Middle lobe
- Lower lobe
- Oblique fissure cuts into the whole thickness of the lung except the hilum.
- Horizontal fissure passes from the anterior border up to the oblique fissure and separated a wedge shaped middle lobe form the upper lobe.

Border –2 Anterior border was very thin it was shorter than the posterior border[figure 1].

Surface-2

- Costal surface was large, convex. It was in connection with the costal pleura and overlying thoracic wall.
- Medial surface was divided into two parts - vertebral and mediastinal.
- Vertebral part was concave and related to vertebral column, vertebral bodies and intervertebral disc.

Mediastinal part is related mediastinal septum, cardiac impression.

DISCUSSION:

The cardiac notch is present on the anterior border of the left lung. It is produced to accommodate the space taken up by the heart and it leaves a small anterior area of pericardium in direct contact with the sternum; this area is dull to percussion - the area of superficial cardiac dullness^[4](unlike the surrounding regions where overlying lung makes the percussion note relatively resonant).

Surfaces – 2 Costal surfaces was convex. It was connected with the costal pleura and the overlying thoracic wall. Medial surface was divided into two parts - Vertebral and Mediastinal part.

- Vertebral surface was concave and related to vertebral column, vertebral bodies and inter vertebral disc.
- Mediastinal surface was related mediastinal septum.

Left lung

Shape - Conical in shape

Apex was blunt and lies above the level of the anterior end of the first ribs

Base was semilunar and concave.

Fissure -1 Oblique fissure

Lobe -2

Upper lobe

Lower lobe

Border- 2

Anterior border was thin,vertical as the anterior border of right lung and there was absence of cardiac notch[Figure-2].

Posterior border was thick and ill defined.

CONCLUSION:

The cardiac notch helps to accommodate the space taken up by the heart between two lungs. It is of great importance in various procedures like ultrasound examination, Percussion, auscultation, pericardial and cardiac puncture. In the absence of cardiac notch on the anterior border of left lung, the heart is completely covered by left lung. It may cause some resistance in normal contraction and relaxation of heart due to overlapping left lung. It may cause hindrance during examination and procedures like ultrasound examination, Percussion, auscultation, pericardial and cardiac puncture^[5].

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Figure-1

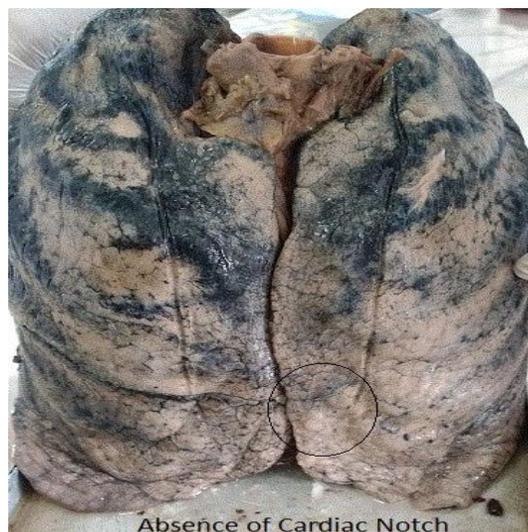


Figure-2