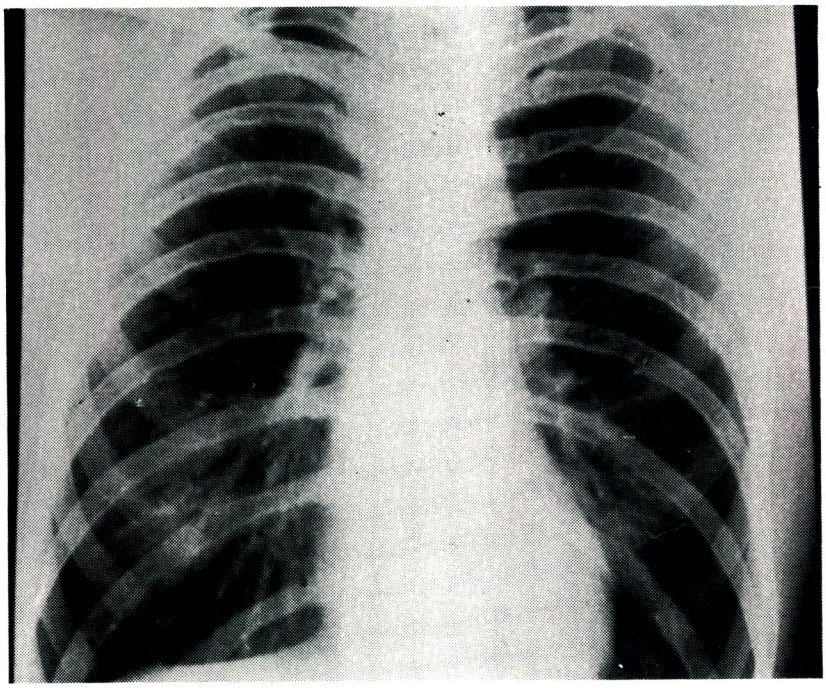
# Answers to Medical Quiz



A1. "Rib notching" is demonstrated at the inferior margin of the left 4th rib.

A2. This "rib notching" is seen in coarctation of the aorta, caused by erosion of the ribs due to the enlarged intercostal arteries.

A3. There is a high chance, if this patient was a girl, to be a case of Turner Syndrome (45,XO) with coarctation of the aorta.

A localized congenital narrowing of the aortic lumen usually located near the site of the ligamentum arteriosum is referred to as coarctation of the aorta.

The defect is common being noted in about 8% of all congenital cardiovascular malformations. Males are affected predominantly (2:1). It is the most common cardiovascular lesion seen in the Turner Syndrome, which has an incidence rate of approximately 35%, and is associated with bicuspid aortic valve in over 70% of patients.

Coarctation results in resistance to aortic blood flow to the sigment distal to the obstruction. Major adaptive mechanisms may be required to maintain adequate perfusion of the lower half of the body. These include elevation of blood pressure in the aortic compartment proximal to the obstruction and by-passing of the obstruction by development of collateral pathways of flow and arteriolar vasoconstriction to maintain adequate mean perfusion pressure (approximately 55 mm Hg) below the coarctation.

Enlarged intercostal arteries erode the ribs and cause the "rib notching" that is seen on the plain film of the chest. Fortunately, there is communication between the collateral circulation above the level of coarctation and that which is beneath the coarctation thereby assuming an adequate supply of blood to the lower part of the body despite the reduced blood flow in the aorta.

## REFERENCES

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