Demonstration of Double Aortic Arch in a 21 Weeks Primigravida by Color Spatiotemporal Image Correlation Rendering Technique

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Abstract

Fetal double aortic arch (DAA) is a rare congenital arch anomaly characterized by the presence of two aortic arches instead of the normal single arch. DAA is an uncommon finding during routine fetal echocardiography. Prenatal ultrasound detection of fetal DAA is crucial for early identification and appropriate management of affected fetuses. Despite the challenges and limitations, advancements in imaging technology and expertise have improved diagnostic accuracy.

Keywords

► 4D ultrasound
► arch anomaly
► double aortic arch
► fetal echocardiography
► STIC

This is a case of double aortic arch diagnosed with the spatiotemporal image correlation (STIC) technique of 4D ultrasound using color Doppler.

In Fig. 1, The three-dimensional view of the fetal heart is shown with depiction of a double aortic arch without labeling the relevant structures, whereas Fig. 2 labeled relevant structures.
Fig. 1  Color spatiotemporal image correlation (STIC) rendered image of the fetal heart showing double aortic arch.

Fig. 2  Color spatiotemporal image correlation (STIC) rendered image of the fetal heart showing DAA (relevant structures labeled: AA, aorta ascending arch; DAA, double aortic arch; LV, left ventricle; PA, pulmonary artery; RV, right ventricle).