



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

Shankar Dey<sup>1,2</sup>

<sup>1</sup> Department of Obstetrics and Gynaecology, ESI Hospital, Asansol, West Bengal, India

<sup>2</sup> Department of Fetal Medicine, Ultra Clinic, Fetal Medicine & Fertility Centre, Asansol, West Bengal, India

Address for correspondence Shankar Dey, MS, Vidyasagar Abasan Phase 2, S.B. Gorai Road, Asansol 713301, West Bengal, India (e-mail: drshankardey@gmail.com).

J Fetal Med 2023;10:105–106.

## 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

Four-dimensional (4D) ultrasound provides a volumetric representation of the fetal structures. It allows for better visualization and assessment of complex anatomical abnormalities, including DAA. With 4D imaging, the sonographer can manipulate the image, rotate it, and view it from different angles, aiding in the identification of the double arch anomaly.

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

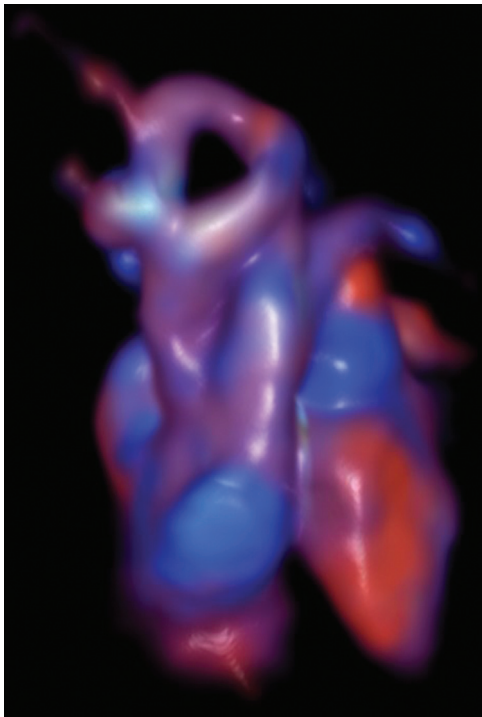
In ►**Fig. 1**, The three-dimensional view of the fetal heart is shown with depiction of a double aortic arch without

labeling the relevant structures, whereas ►**Fig. 2** labeled relevant structures.

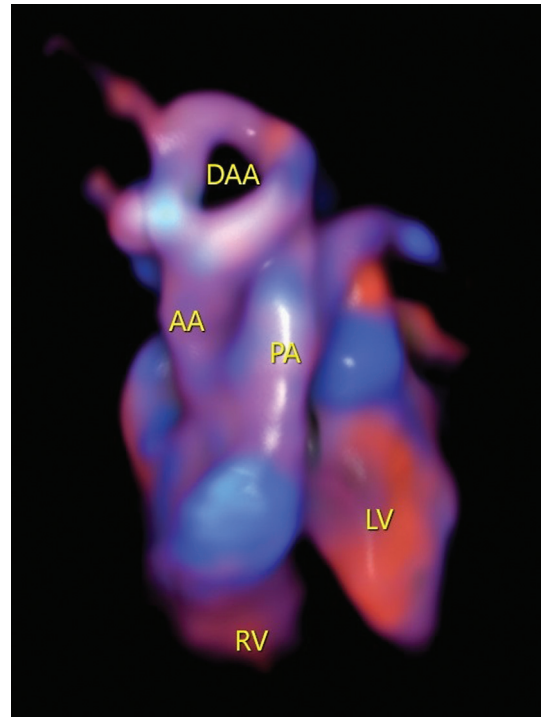
article published online  
October 13, 2023

DOI <https://doi.org/10.1055/s-0043-1774755>.  
ISSN 2348-1153.

© 2023. Society of Fetal Medicine. All rights reserved.  
This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial-License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)  
Thieme Medical and Scientific Publishers Pvt. Ltd., A-12, 2nd Floor, Sector 2, Noida-201301 UP, India



**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).