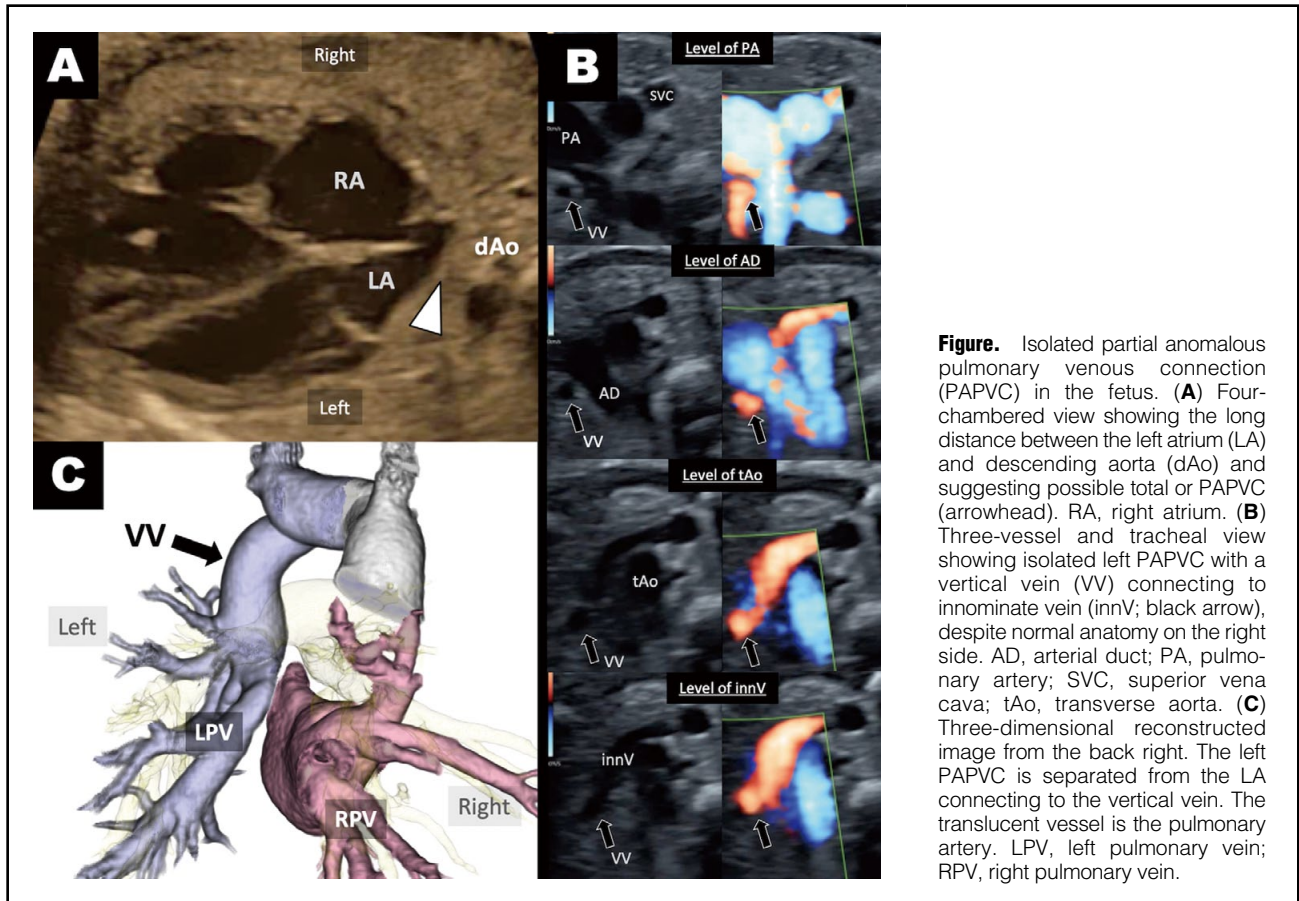


## Impact of Novel Fetal Cardiac Screening Detecting Fetal Isolated Partial Anomalous Pulmonary Venous Connections

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**Figure.** Isolated partial anomalous pulmonary venous connection (PAPVC) in the fetus. (A) Four-chambered view showing the long distance between the left atrium (LA) and descending aorta (dAo) and suggesting possible total or PAPVC (arrowhead). RA, right atrium. (B) Three-vessel and tracheal view showing isolated left PAPVC with a vertical vein (VV) connecting to innominate vein (innV; black arrow), despite normal anatomy on the right side. AD, arterial duct; PA, pulmonary artery; SVC, superior vena cava; tAo, transverse aorta. (C) Three-dimensional reconstructed image from the back right. The left PAPVC is separated from the LA connecting to the vertical vein. The translucent vessel is the pulmonary artery. LPV, left pulmonary vein; RPV, right pulmonary vein.

**P**renatal detection of an isolated total, or partial, anomalous pulmonary venous connection (T/PAPVC) in the fetus is an extremely challenging task.<sup>1,2</sup> To increase the rate of T/PAPVC detection, we use a novel screening view in fetal cardiac screening based on morpho-

logical features of total anomalous pulmonary venous connection (TAPVC) that highlights the long distance between the left atrium and descending aorta on fetal echocardiography.<sup>3</sup>

A fetus at 30 weeks gestation was referred from an obstet-

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ric clinic on account of the novel screening view (**Figure A**). Fetal echocardiography demonstrated the first isolated left partial anomalous pulmonary venous connection (PAPVC) in the fetus, with the vertical vein connecting to the innominate vein (**Figure B: Supplementary Movie 1**) and 3-dimensional computed tomography demonstrated an isolated PAPVC postnatally (**Figure C: Supplementary Movie 2**).

This novel screening view demonstrates the potential of a screening marker not only for TAPVC, but also PAPVC, and will contribute to an increase in the rates of T/PAPVC detection, resulting in better prognosis for the newborn and advancing fetal cardiac screening considerably.

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#### Disclosures

None declared.

#### IRB Information

This study was approved by the Ethics Committee of Nagano Children's Hospital (Reference no. 27-5).

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#### Supplementary Files

**Supplementary Movie 1.** Three-vessels and tracheal view.

**Supplementary Movie 2.** Three-dimensional reconstructed image.

Please find supplementary file(s);  
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