

<http://www.glowm.com/?p=glowm.cml/ultrasoundAtlas>

Atlas of Obstetric Ultrasound

by The International Society of Ultrasound in Obstetrics & Gynecology

under the Editorship of Professor Gianluigi Pilu

Department of Obstetrics & Gynecology, Bologna, Italy



Contents:

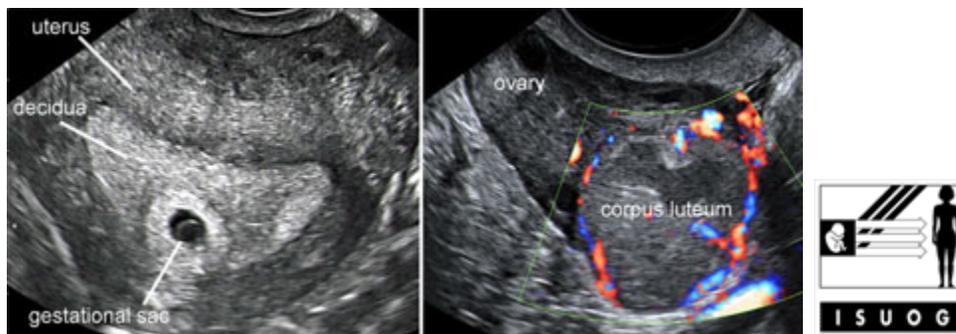
- [Early pregnancy and embryogenesis](#)
 - [The gestational sac and the corpus luteum](#)
 - [The corpus luteum](#)
 - [The gestational sac in 2D ultrasound at 4–6 weeks' gestation](#)
 - [The gestational sac in 3D ultrasound at 4–7 weeks' gestation](#)
 - [A close look at the gestational sac at 7 weeks' gestation](#)
 - [Embryo at 7–10 weeks' gestation](#)
 - [Brain vesicles at 8 weeks' gestation](#)
 - [Brain vesicles at 8 weeks' gestation: the unfolded embryo](#)
 - [Casts of the cerebral vesicles at 7–10 weeks' gestation](#)
 - [End of embryogenesis and beginning of fetal period: 11 weeks' gestation](#)
 - [Fetal faces](#)
- [Placenta](#)
 - [Normal placenta](#)
 - [Normal umbilical cord](#)
 - [Placenta previa](#)
 - [Placenta accreta](#)
 - [Velamentous insertion of the cord](#)
 - [Vasa previa](#)
 - [Chorioangioma of the placenta](#)
 - [Molar pregnancy](#)
 - [Single umbilical artery](#)
 - [Umbilical cord cyst](#)
 - [Cord hemangioma](#)
 - [Abruptio placentae](#)
- [The fetal face](#)
 - [2D sonography of the fetal face](#)
 - [3D sonography of fetal face](#)
 - [The fetal palate](#)
 - [3D ultrasound of the fetal skull](#)
 - [3D tomography of fetal face](#)
 - [Varieties of fetal facial clefts](#)

- [Isolated cleft lip](#)
- [Cleft lip and palate](#)
- [Bilateral cleft lip and palate](#)
- [Facial anomalies with holoprosencephaly](#)
- [Lateral cleft of the fetal face](#)
- [Micrognathia](#)
- [Binder syndrome](#)
- [Apert syndrome](#)
- [Trigonocephaly](#)
- [Skin tag](#)
- [Beckwith Wiedemann syndrome](#)
- [The fetal brain](#)
 - [Normal fetal brain at midgestation: basic survey](#)
 - [Normal fetal brain at midgestation: advanced examination](#)
 - [Fetal spine and neural canal](#)
 - [Cerebral vessels](#)
 - [Anencephaly throughout gestation](#)
 - [Cephaloceles](#)
 - [Myelomeningocele](#)
 - [Myelocele](#)
 - [Holoprosencephaly](#)
 - [Facial anomalies with holoprosencephaly](#)
 - [Agenesis of the septum pellucidum](#)
 - [Complete agenesis of the corpus callosum](#)
 - [Partial agenesis of the corpus callosum](#)
 - [Megacisterna magna](#)
 - [Dandy-Walker malformation](#)
 - [Blake's pouch cyst](#)
 - [Vermian hypoplasia](#)
 - [Cerebral lateral ventriculomegaly](#)
 - [Types of cerebral lateral ventriculomegaly](#)
 - [Intracranial hemorrhage](#)
 - [Porencephalic cyst](#)
 - [Schizencephaly: unilateral and bilateral](#)
 - [Periventricular leukomalacia](#)
 - [Brain findings with fetal cytomegalovirus infection](#)
 - [Brain findings with fetal toxoplasmosis](#)
 - [Intracranial arachnoid cysts](#)
 - [Choroid plexus cyst](#)
 - [Vein of Galen aneurysm](#)
 - [Lissencephaly](#)
 - [Unilateral megalencephaly](#)
 - [Intracranial tumors](#)
- [The fetal heart](#)
 - [Normal fetus situs](#)
 - [Two-dimensional gray scale imaging of fetal cardiac connections](#)
 - [Color Doppler of fetal cardiac connections](#)
 - [The fetal aortic arch](#)
 - [High definition flow of the fetal aortic arch](#)
 - [Color Doppler of pulmonary veins](#)
 - [Three-dimensional ultrasound of normal fetal heart](#)
 - [Two-dimensional gray scale imaging of ventricular septal defects](#)
 - [Color and pulsed Doppler of blood shunting across a muscular ventricular septal defect](#)
 - [Muscular ventricular septal defect](#)
 - [Inlet ventricular septal defect](#)

- [Outlet ventricular septal defect](#)
- [Perimembranous ventricular septal defect](#)
- [Apical ventricular septal defect](#)
- [Complete atrioventricular canal](#)
- [Partial atrioventricular canal](#)
- [Single ventricles](#)
- [Hypoplastic left heart syndrome](#)
- [Pulmonary atresia with intact ventricular septum](#)
- [Ebstein malformation of the tricuspid valve](#)
- [Tricuspid dysplasia](#)
- [Tetralogy of Fallot](#)
- [Complete transposition of great arteries](#)
- [Double outlet right ventricle](#)
- [Truncus arteriosus communis](#)
- [Interrupted aortic arch](#)
- [Coarctation/tubular hypoplasia of aortic arch](#)
- [Aortic stenosis](#)
- [Pulmonic stenosis](#)
- [Cardiac anomalies associated with isomerism](#)
- [Left isomerism](#)
- [Right isomerism](#)
- [Liver in isomerism](#)

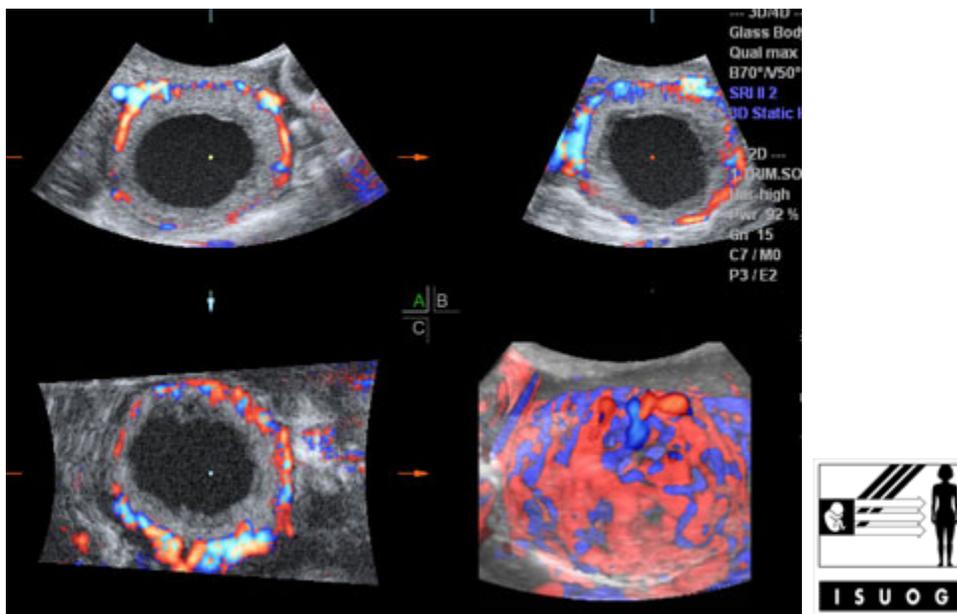
Early pregnancy and embryogenesis

The gestational sac and the corpus luteum



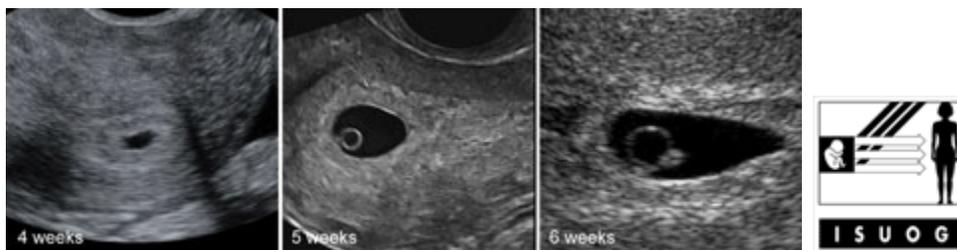
Legend:The gestational sac and the corpus luteum

The corpus luteum



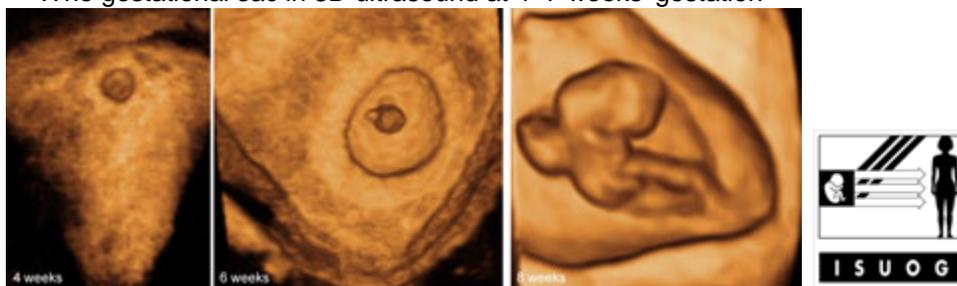
Legend:The corpus luteum

The gestational sac in 2D ultrasound at 4–6 weeks' gestation



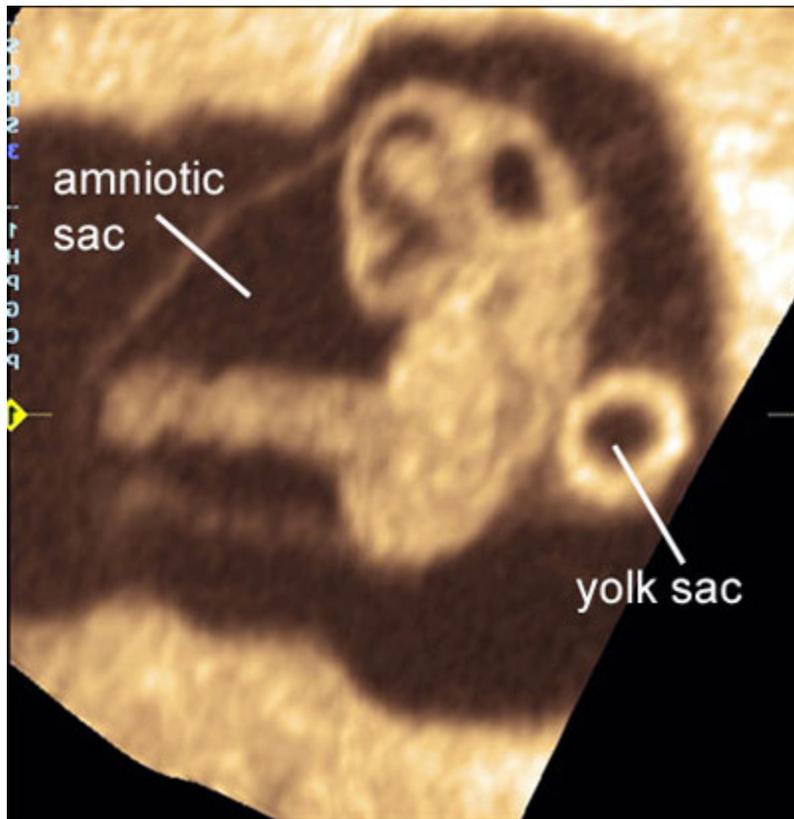
Legend:The gestational sac in 2D ultrasound at 4–6 weeks' gestation

The gestational sac in 3D ultrasound at 4–7 weeks' gestation

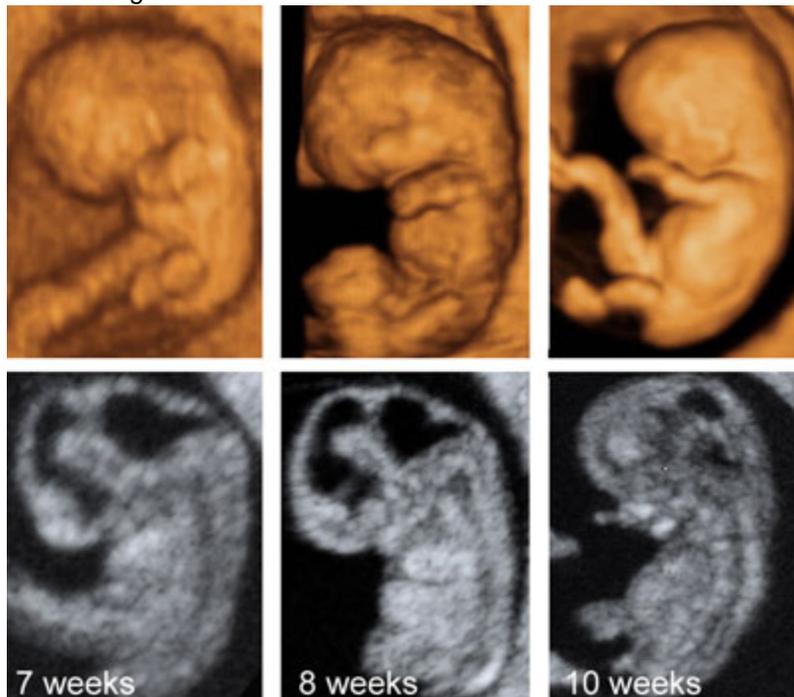


Legend:The gestational sac in 3D ultrasound at 4–7 weeks' gestation

A close look at the gestational sac at 7 weeks' gestation

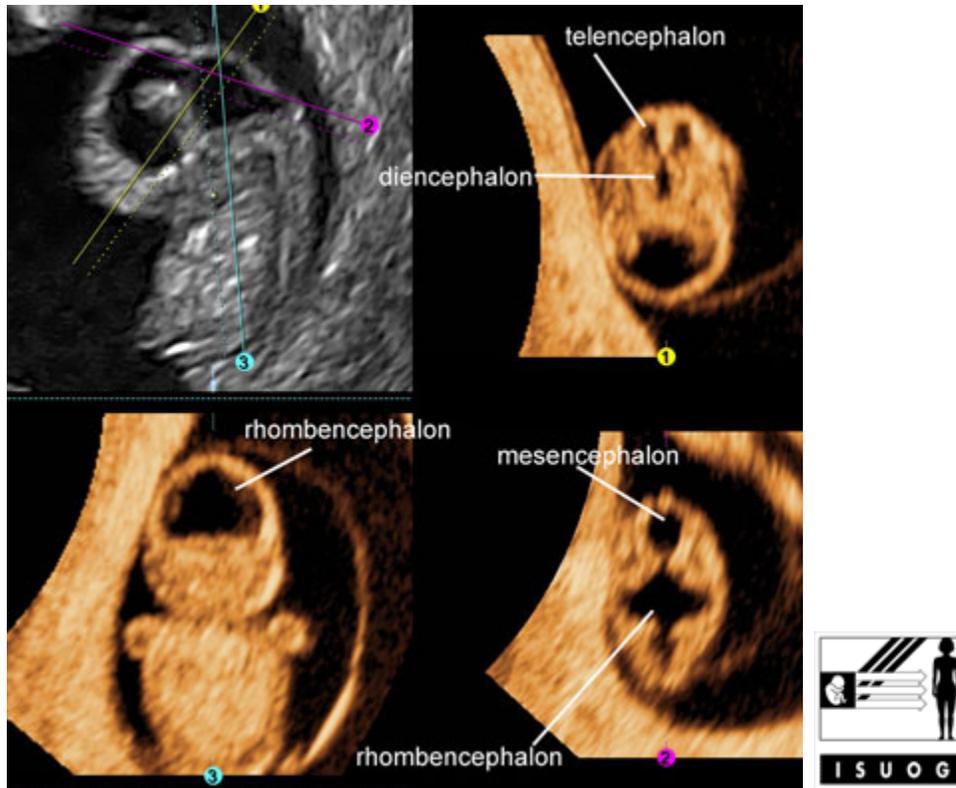


Legend:A close look at the gestational sac at 7 weeks' gestation Embryo at 7–10 weeks' gestation



Legend: Sonography of the embryonic period with 3D (top) and 2D ultrasound. The developing cerebral vesicles are well seen

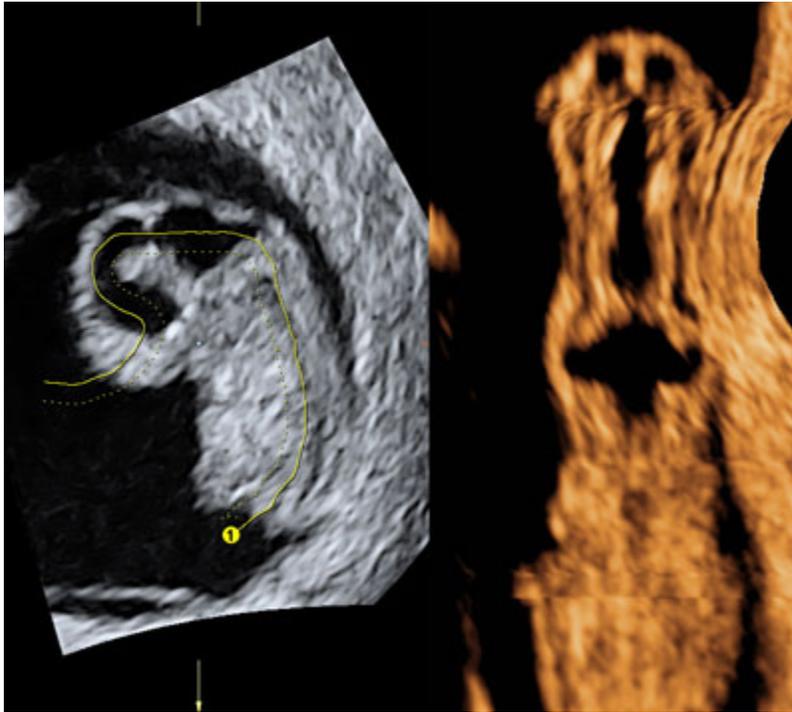
Brain vesicles at 8 weeks' gestation



Legend: Brain vesicles at 8 weeks' gestation

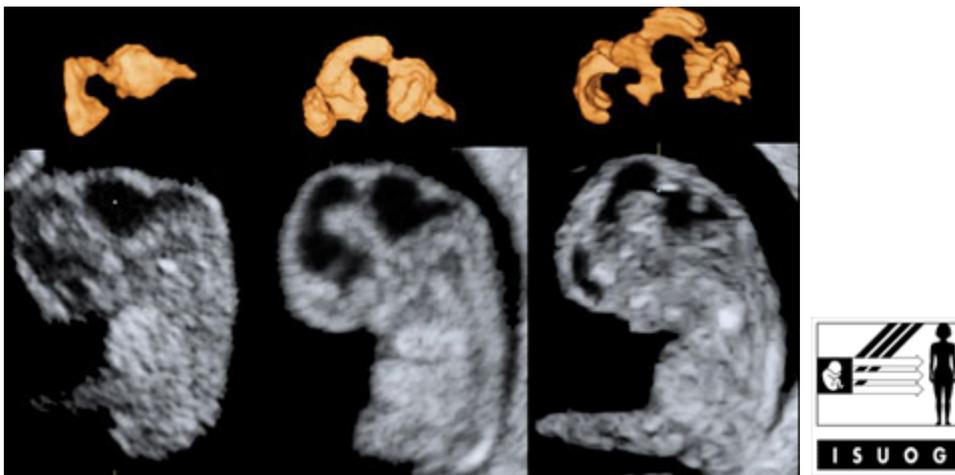
Reference(s): Blaas HG, Eik-Nes SH, Kiserud T, Hellevik LR. Early development of the forebrain and midbrain: a longitudinal ultrasound study from 7 to 12 weeks of gestation. *Ultrasound Obstet Gynecol* 1994;4(3):183–92. PubMed PMID: [12797178](#). Blaas HG, Eik-Nes SH, Kiserud T, Hellevik LR. Early development of the hindbrain: a longitudinal ultrasound study from 7 to 12 weeks of gestation. *Ultrasound Obstet Gynecol* 1995;5(3):151–60. PubMed PMID: [7788488](#). Blaas HG, Eik-Nes SH, Kiserud T, Berg S, Angelsen B, Olstad B. Three-dimensional imaging of the brain cavities in human embryos. *Ultrasound Obstet Gynecol* 1995;5(4):228–32.

Brain vesicles at 8 weeks' gestation: the unfolded embryo



Legend:Brain vesicles at 8 weeks' gestation: the unfolded embryo

Casts of the cerebral vesicles at 7–10 weeks' gestation



Legend:Casts of the cerebral vesicles at 7–10 weeks' gestation

End of embryogenesis and beginning of fetal period: 11 weeks' gestation



Legend:End of embryogenesis and beginning of fetal period: 11 weeks' gestation

Fetal faces

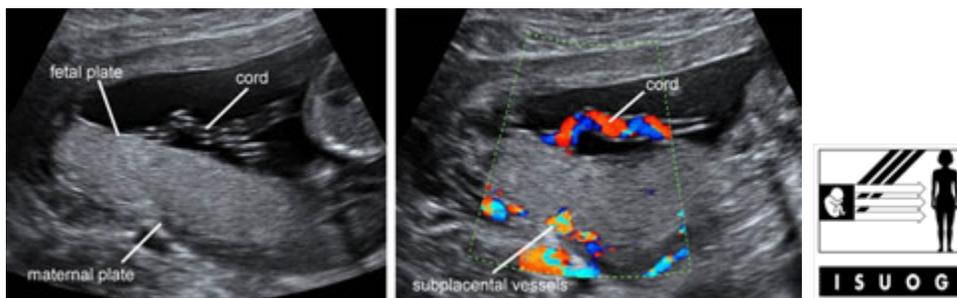


Legend:Fetal faces

Reference(s):Rotten D, Levillant JM. Two- and three-dimensional sonographic assessment of the fetal face. 1. A systematic analysis of the normal face. *Ultrasound Obstet Gynecol* 2004;23(3):224–31. PubMed PMID: [15027008](https://pubmed.ncbi.nlm.nih.gov/15027008/).

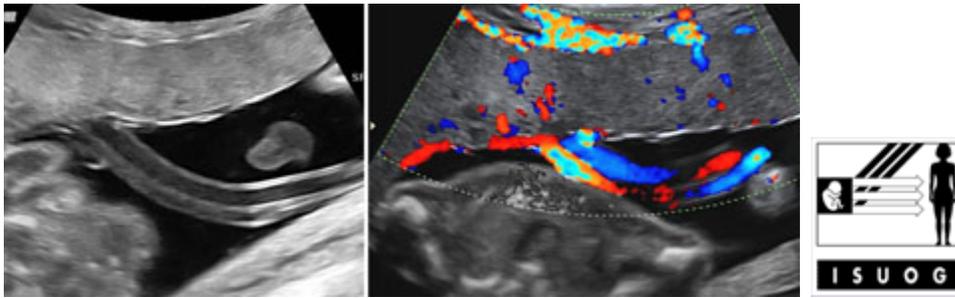
Placenta

Normal placenta



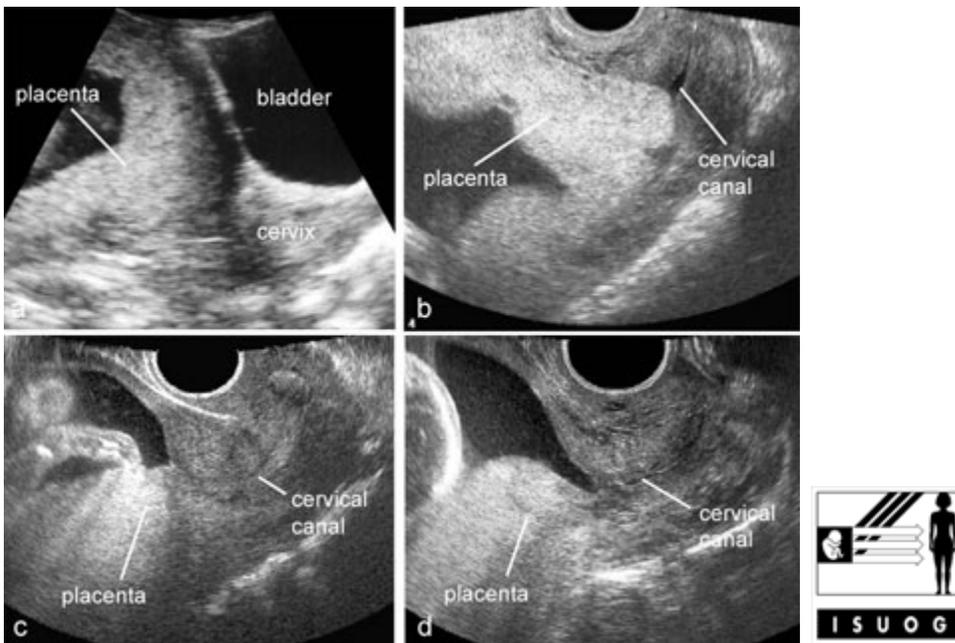
Legend:Normal placenta

Normal umbilical cord



Legend:Normal umbilical cord

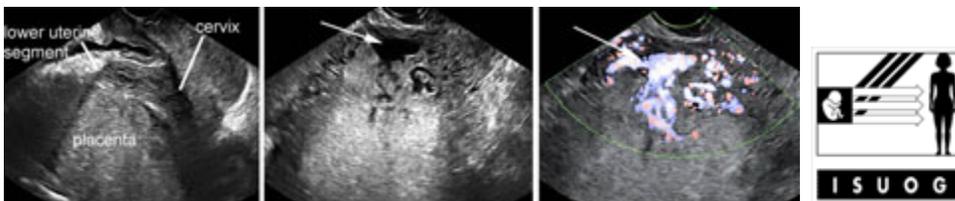
Placenta previa



Legend:Placenta previa

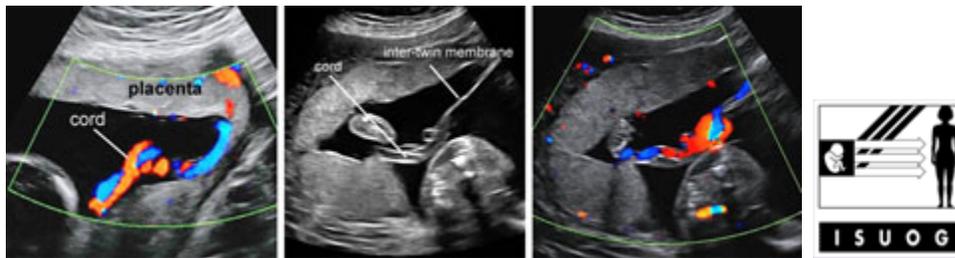
[back to top](#)

Placenta accreta



Legend:Placenta accreta

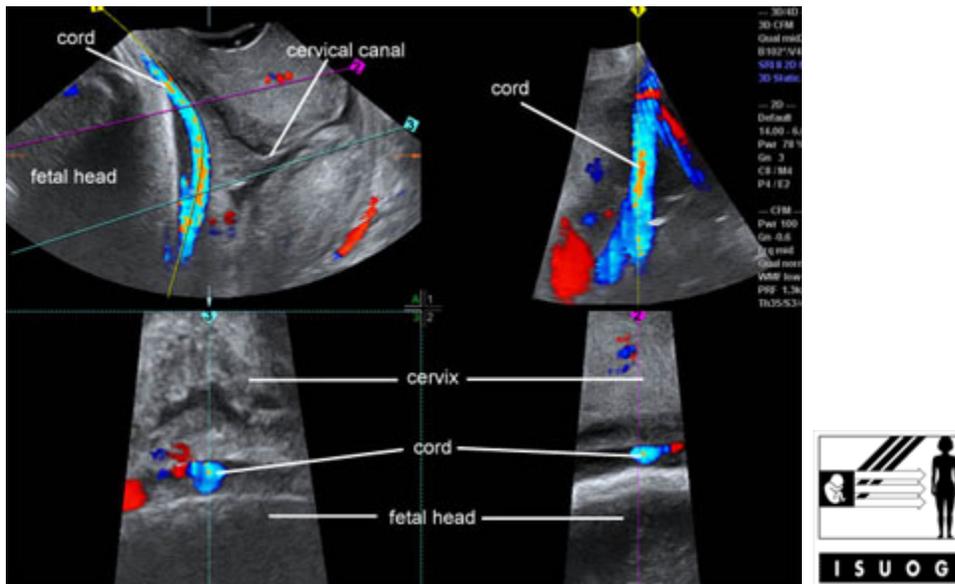
Velamentous insertion of the cord



Legend:Velamentous insertion of the cord

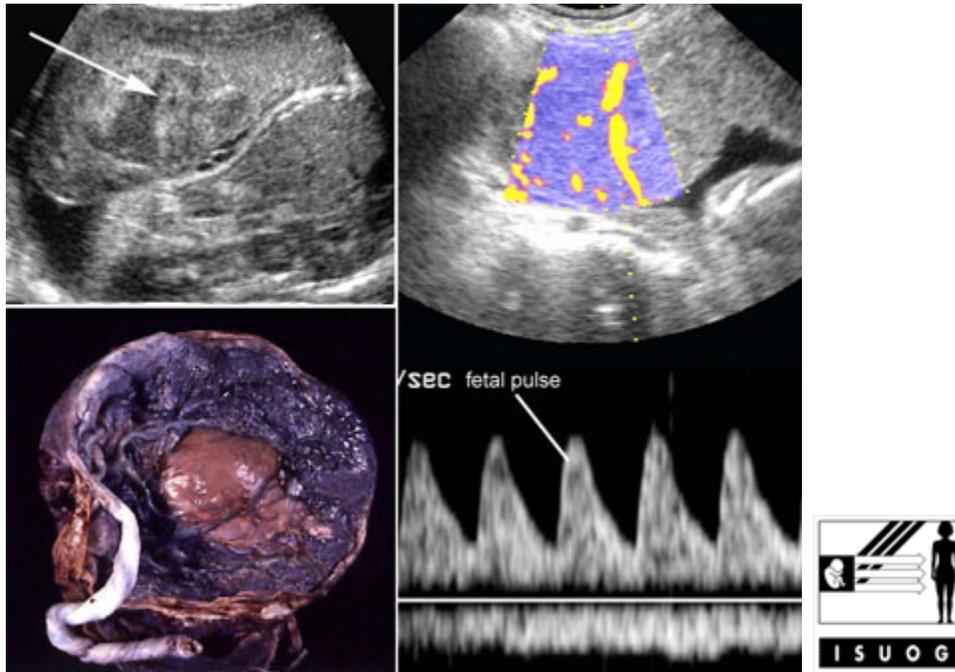
Reference(s):Sepulveda W, Rojas I, Robert JA, Schnapp C, Alcalde JL. Prenatal detection of velamentous insertion of the umbilical cord: a prospective color Doppler ultrasound study. *Ultrasound Obstet Gynecol* 2003;21(6):564–9.

Vasa previa



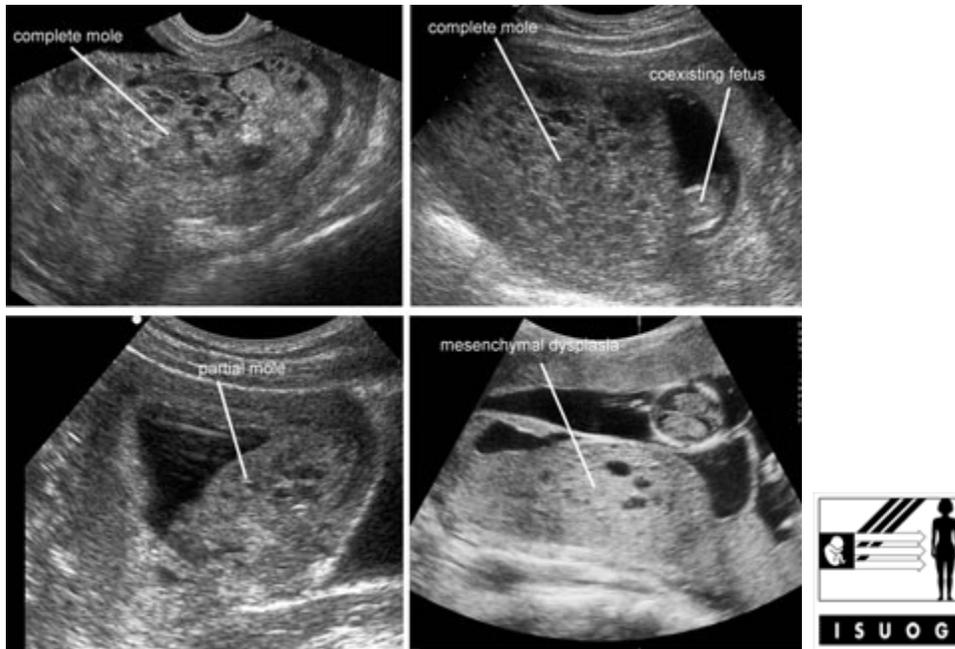
Legend:Vasa previa

Chorioangioma of the placenta



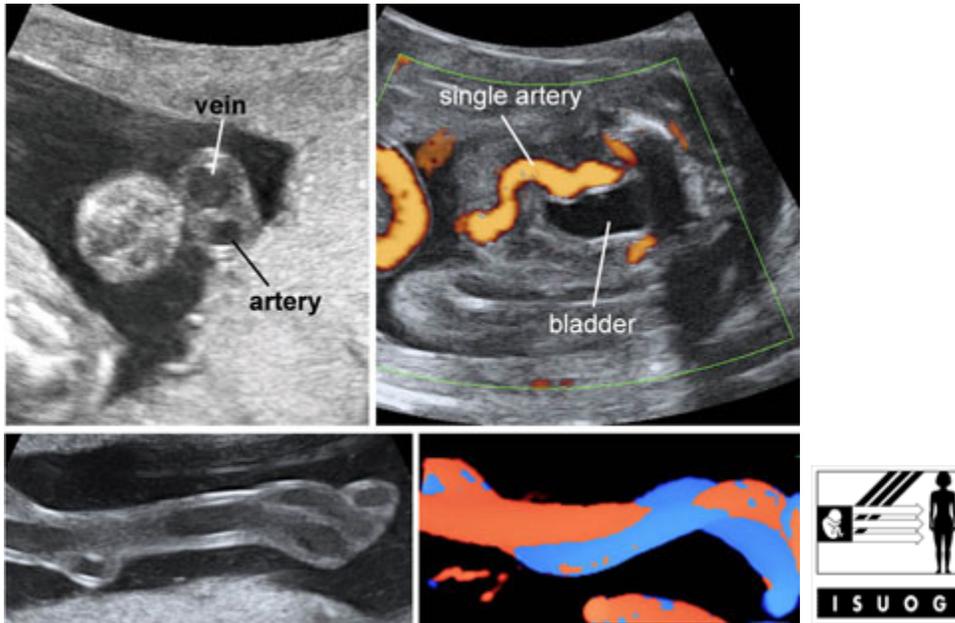
Legend:Chorioangioma of the placenta

Molar pregnancy



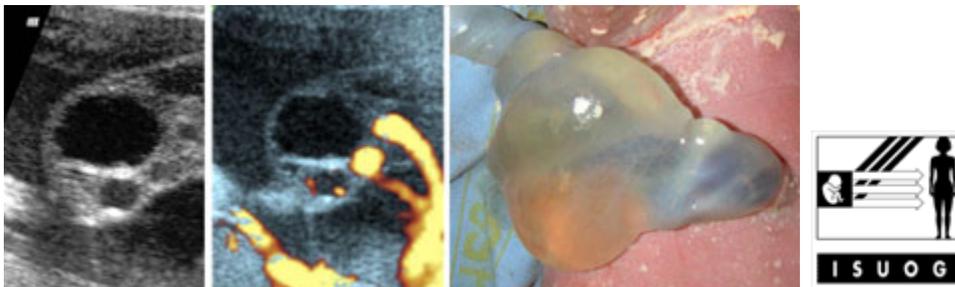
Legend:Molar pregnancy

Single umbilical artery



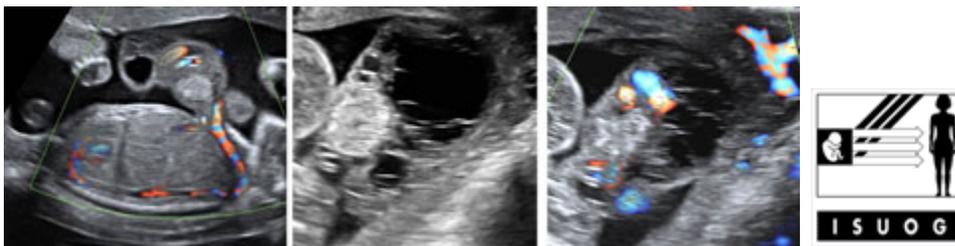
Legend:Single umbilical artery

Umbilical cord cyst



Legend:Umbilical cord cyst

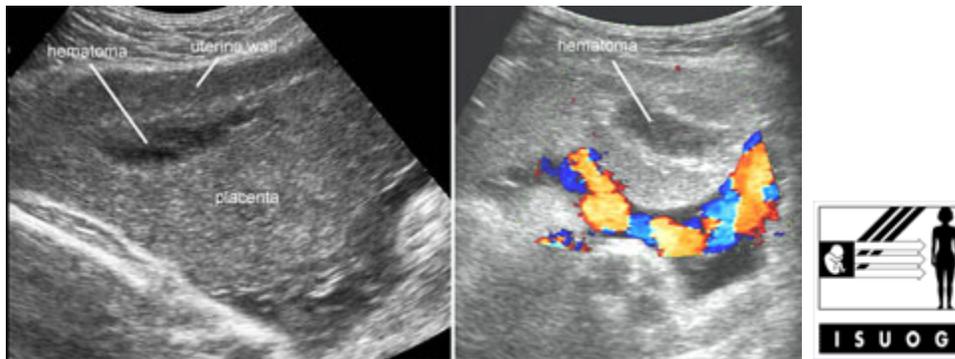
Cord hemangioma



Legend:Cord hemangioma

[back to top](#)

Abruptio placentae



Legend: Abruptio placentae

The fetal face

2D sonography of the fetal face



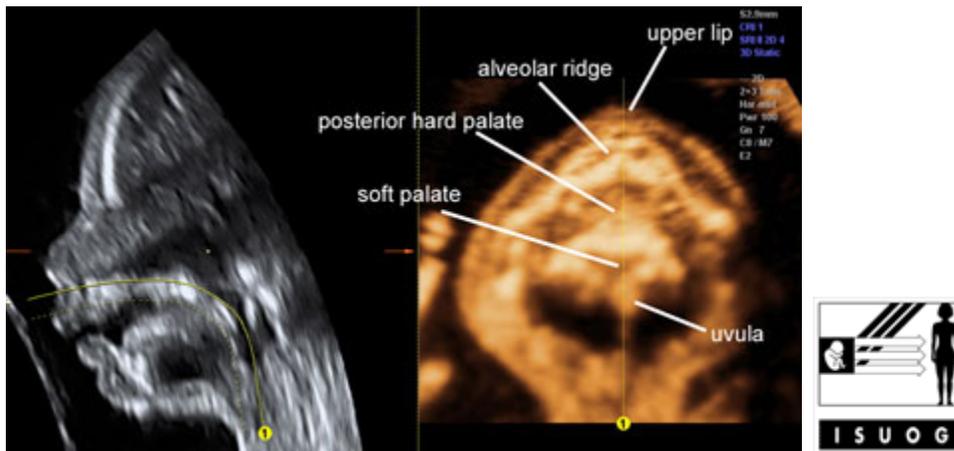
Legend: A combination of sagittal and coronal sections allows a detailed evaluation of the fetal face from early gestation

3D sonography of fetal face



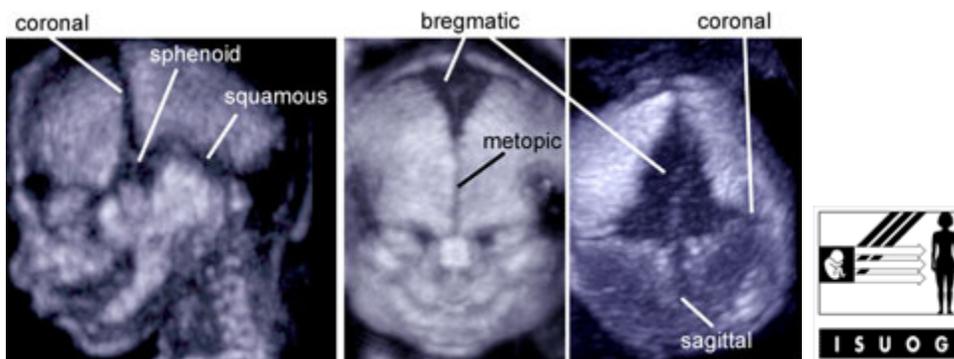
Legend:3D ultrasound is an ideal tool for the evaluation of the fetal face

The fetal palate



Legend:3D ultrasound allows the visualization of the fetal palate

3D ultrasound of the fetal skull

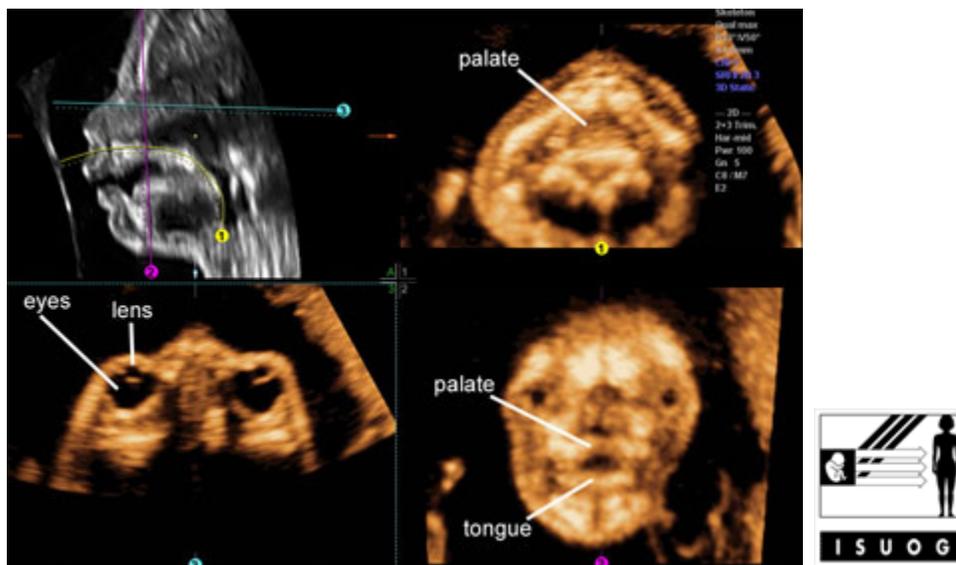


Legend:The bones that form the fetal skull and the interposed sutures and fontanelles are visualized using an application of 3D ultrasound

Reference(s):Faro C, Benoit B, Wegrzyn P, Chaoui R, Nicolaides KH. Three-dimensional sonographic description of the fetal frontal bones and metopic suture. *Ultrasound Obstet Gynecol* 2005;26(6):618–21. PubMed PMID: [16193520](https://pubmed.ncbi.nlm.nih.gov/16193520/).

[back to top](#)

3D tomography of fetal face



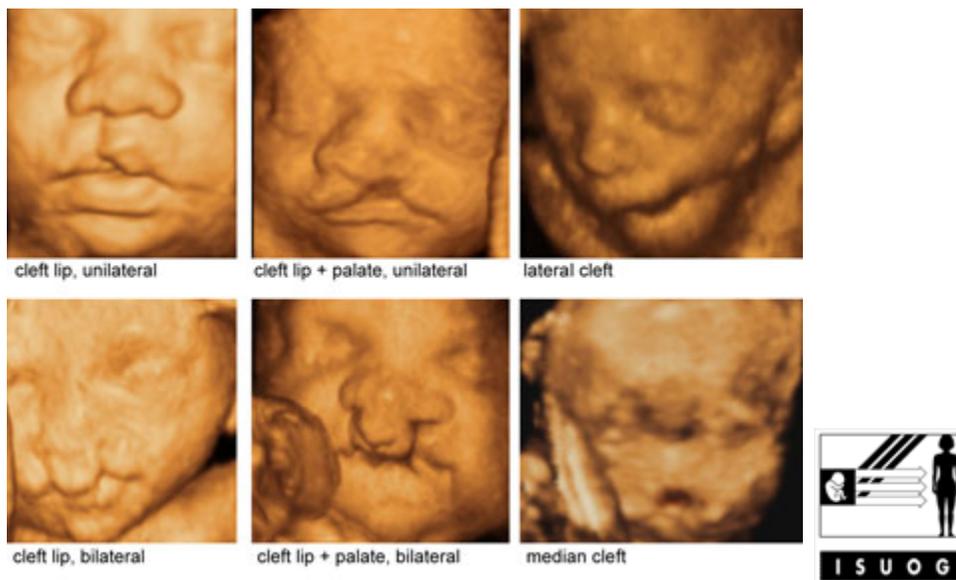
Legend: 3D tomography of fetal face

Three-dimensional ultrasound diagnosis of cleft palate: 'reverse face', 'flipped face' or 'oblique face'--which method is best? *Ultrasound Obstet Gynecol* 2009;33(4):399–406.

PubMed PMID: [19109803](https://pubmed.ncbi.nlm.nih.gov/19109803/).

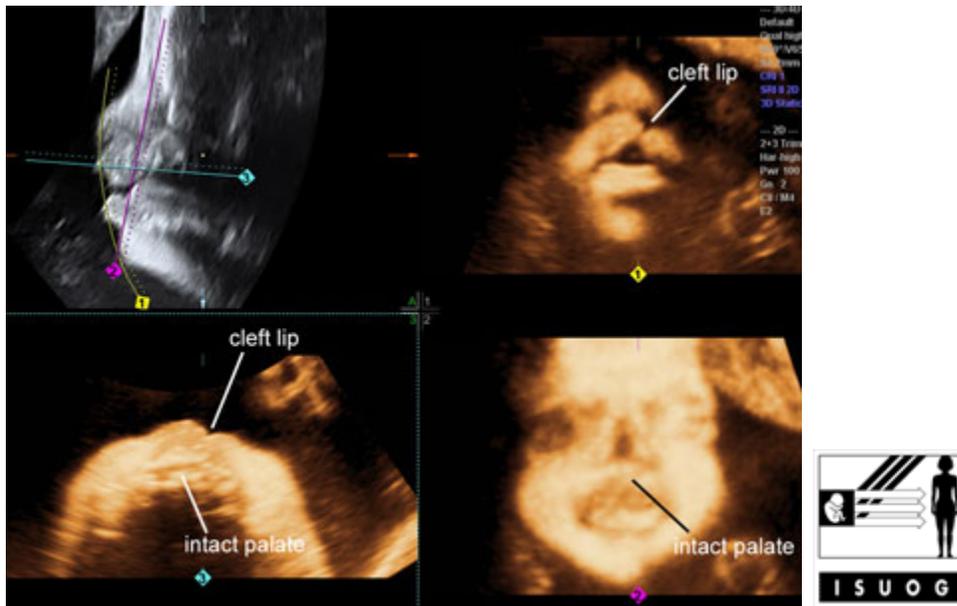
[back to top](#)

Varieties of fetal facial clefts



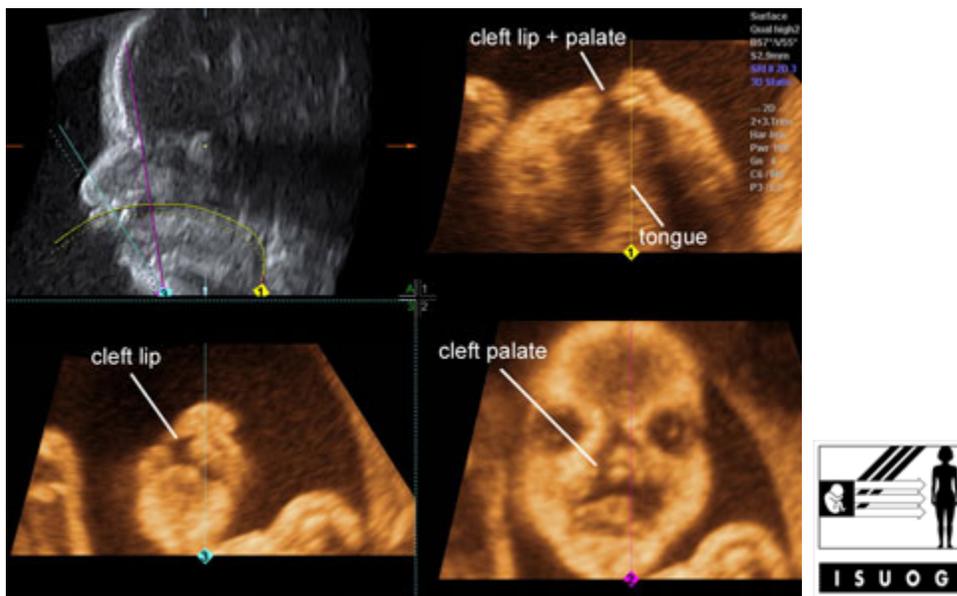
Legend: Varieties of fetal facial clefts

Isolated cleft lip



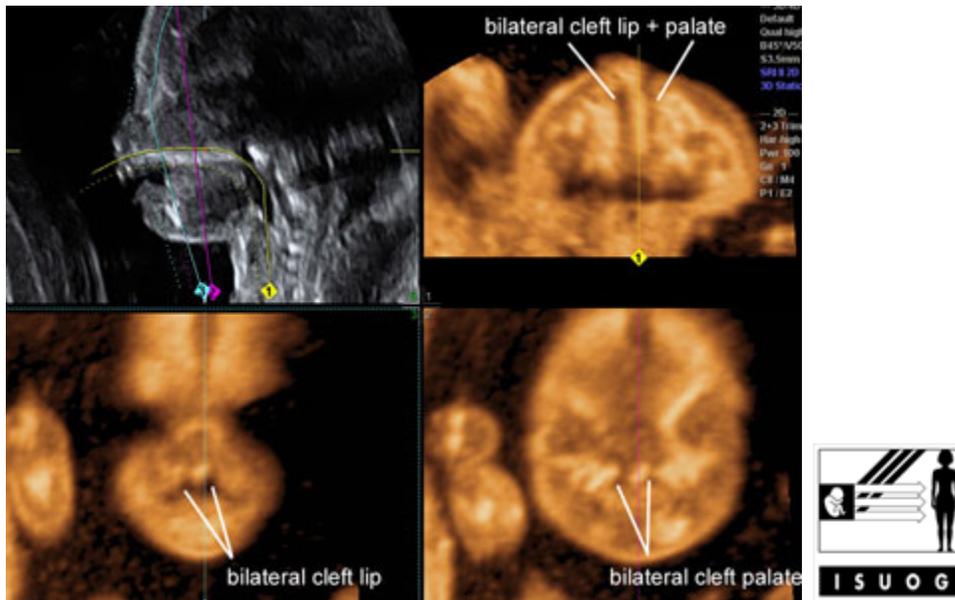
Legend: Isolated cleft lip

Cleft lip and palate



Legend: Cleft lip and palate

Bilateral cleft lip and palate



Legend:Bilateral cleft lip and palate

Facial anomalies with holoprosencephaly

cyclops

median cleft lip



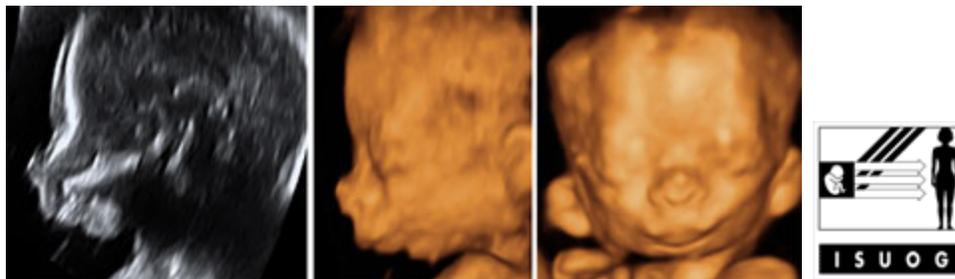
Legend:Facial anomalies with holoprosencephaly

Lateral cleft of the fetal face



Legend:Lateral cleft of the fetal face

Micrognathia



Legend:Micrognathia

Reference(s):Rotten D, Levailant JM, Martinez H, Ducou le Pointe H, Vicaut E. The fetal mandible: a 2D and 3D sonographic approach to the diagnosis of retrognathia and micrognathia. *Ultrasound Obstet Gynecol* 2002;19(2):122–30. PubMed PMID: [11876802](https://pubmed.ncbi.nlm.nih.gov/11876802/).

Binder syndrome

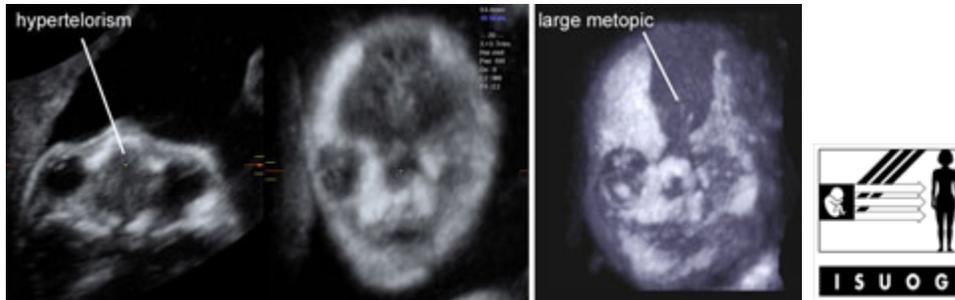


Legend:Binder syndrome or maxillo-nasal dysplasia can be diagnosed in early gestation. The prominent feature is the small nose with flattening of the fronto-nasal angle. It is frequently associated with other anomalies affecting mostly the fetal

skeleton, malformations of the cervical spine, chondrodysplasia punctata and warfarin embryopathy

Reference(s):Cook K, Prefumo F, Presti F, Homfray T, Campbell S. The prenatal diagnosis of Binder syndrome before 24 weeks of gestation: case report. *Ultrasound Obstet Gynecol* 2000;16(6):578–81. PubMed PMID: [11169356](#).

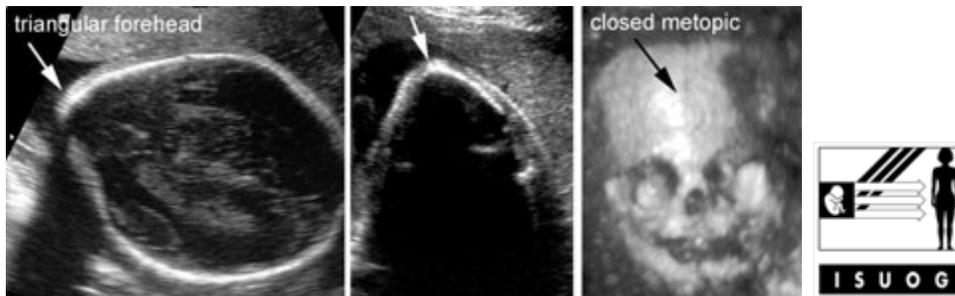
Apert syndrome



Legend:The combination of hypertelorism, a large metopic suture and finger abnormalities is suggestive of Apert syndrome

Reference(s):Faro C, Chaoui R, Wegrzyn P, Levailant JM, Benoit B, Nicolaides KH. Metopic suture in fetuses with Apert syndrome at 22-27 weeks of gestation. *Ultrasound Obstet Gynecol* 2006;27(1):28–33. PubMed PMID: [16317802](#).

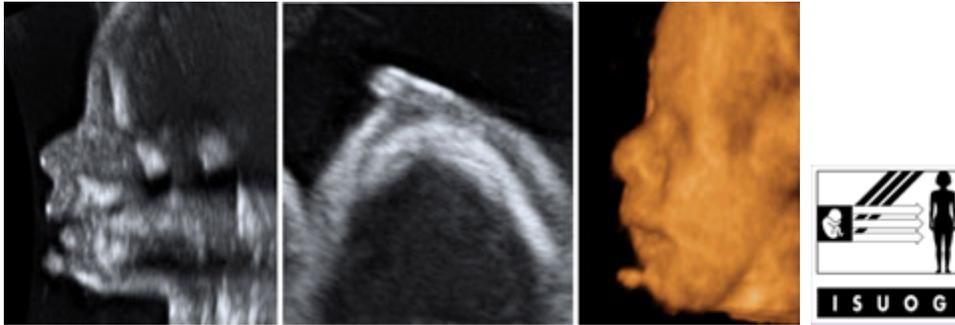
Trigonocephaly



Legend:An abnormal shape of the skull with a triangular forehead and a premature closure of the metopic suture is suggestive of trigonocephaly, a rare form of craniosynostosis that is frequently associated with other anomalies

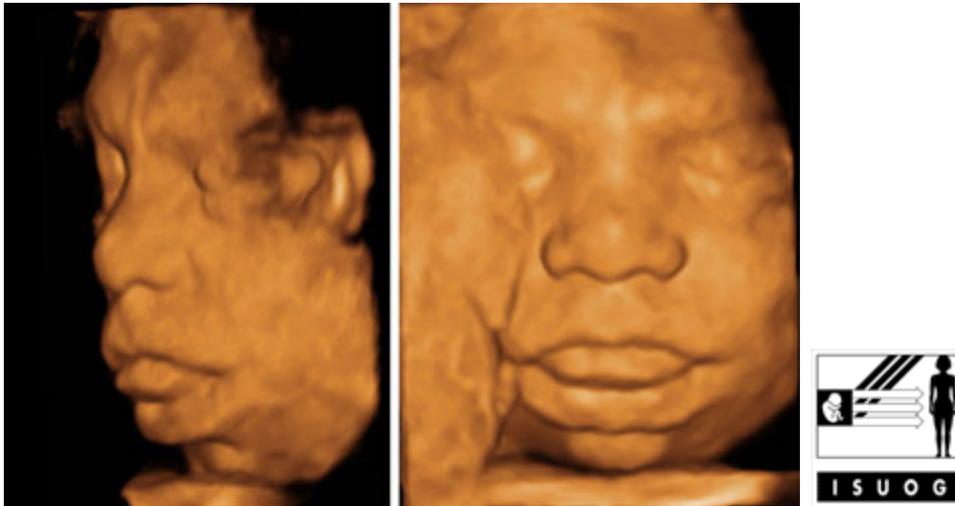
Reference(s):Chaoui R, Levailant JM, Benoit B, Faro C, Wegrzyn P, Nicolaides KH. Three-dimensional sonographic description of abnormal metopic suture in second- and third-trimester fetuses. *Ultrasound Obstet Gynecol* 2005;26(7):761–4. PubMed PMID: [16308900](#).

Skin tag



Legend: Skin tag

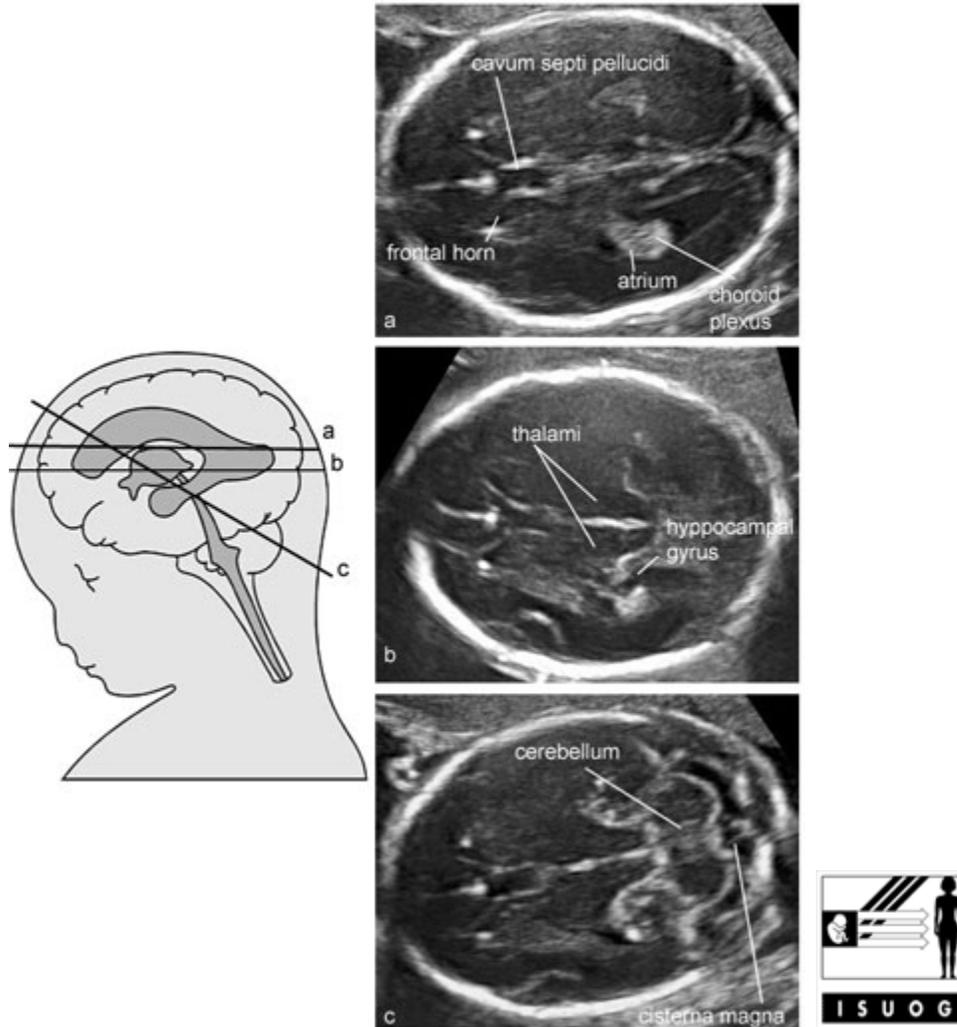
Beckwith Wiedemann syndrome



Legend: Beckwith Wiedemann syndrome is a rare congenital anomaly characterized by overgrowth and different patterns of anomalies including mostly omphalocele, macrosomia, macroglossia and placental dysplasia

The fetal brain

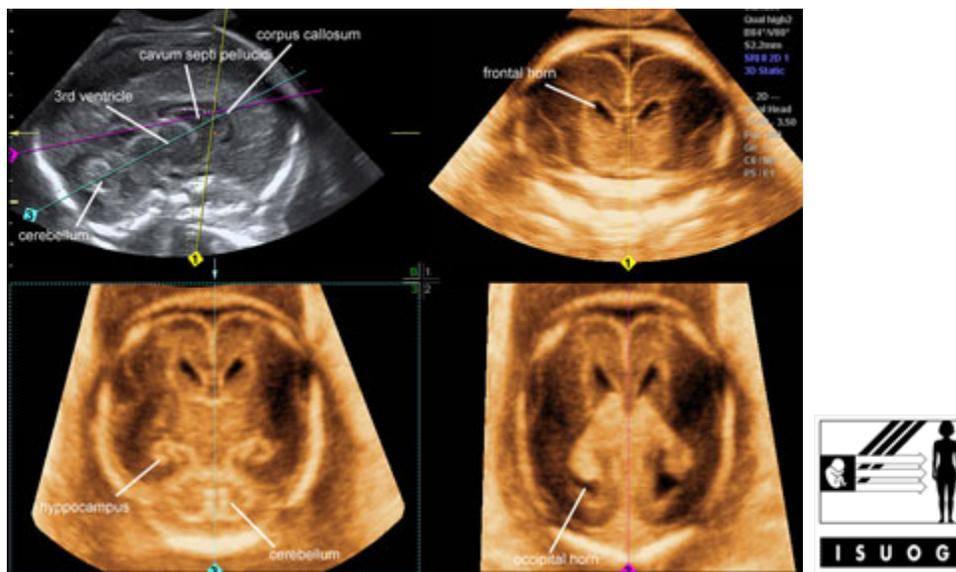
Normal fetal brain at midgestation: basic survey



Legend: Normal fetal brain at midgestation: basic survey

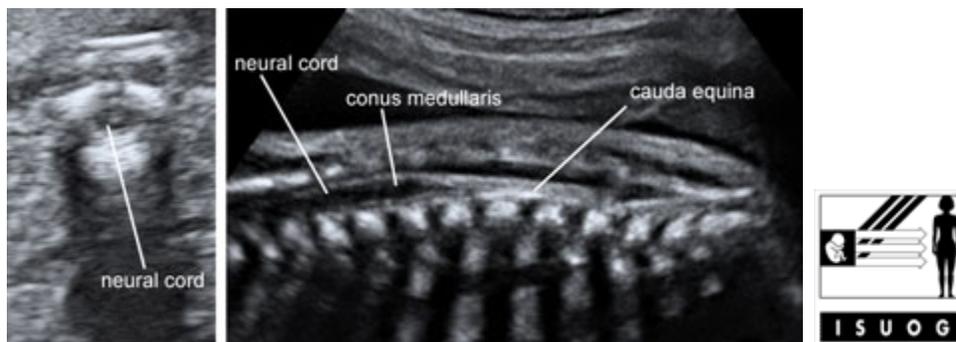
Reference(s): International Society of Ultrasound in Obstetrics & Gynecology Education Committee. Sonographic examination of the fetal central nervous system: guidelines for performing the 'basic examination' and the 'fetal neurosonogram'. *Ultrasound Obstet Gynecol* 2007;29(1):109–16. PubMed PMID: [17200992](https://pubmed.ncbi.nlm.nih.gov/17200992/).

Normal fetal brain at midgestation: advanced examination



Legend:Normal fetal brain at midgestation: advanced examination

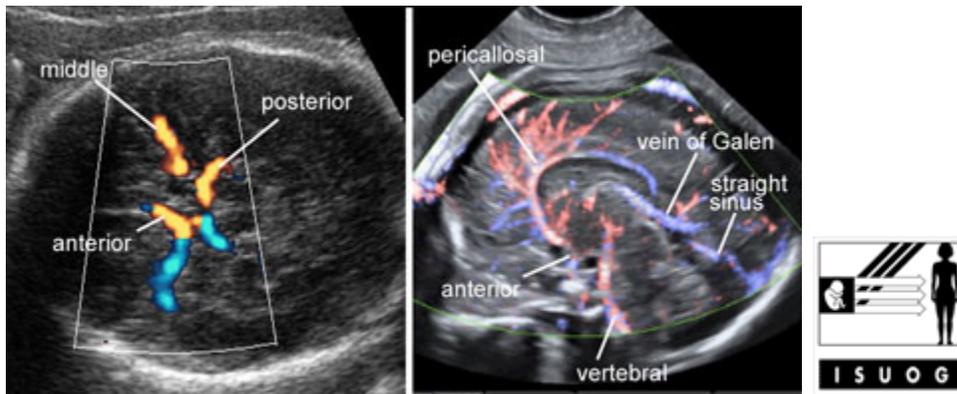
Fetal spine and neural canal



Legend:Fetal spine and neural canal

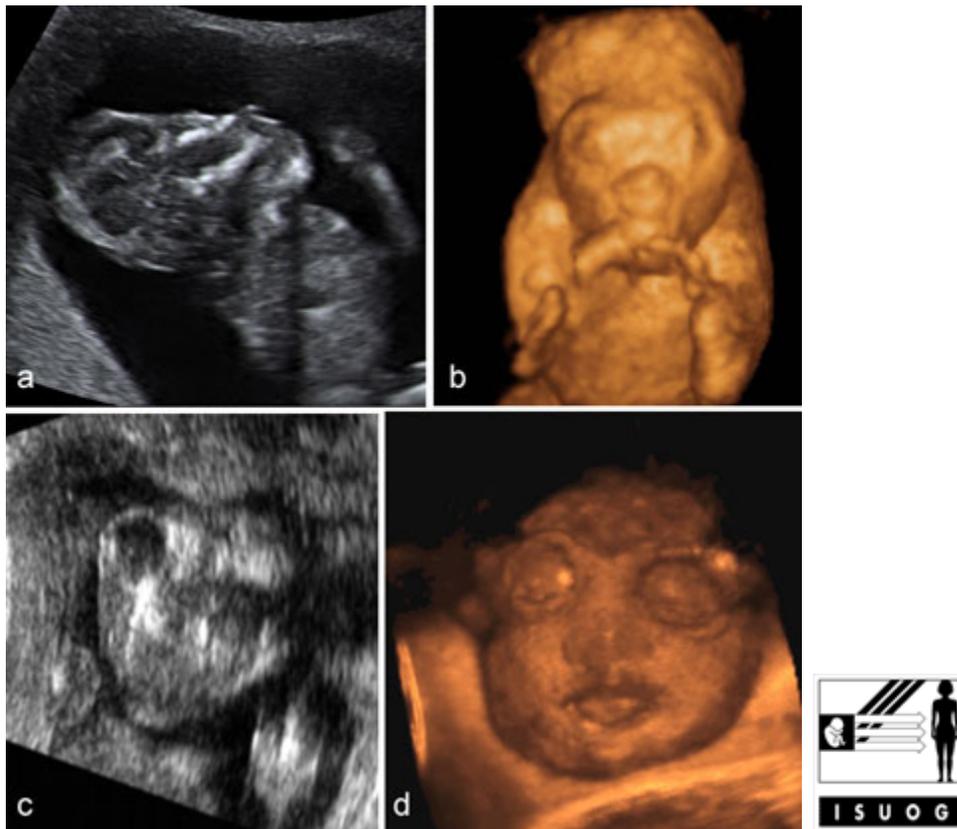
Reference(s):International Society of Ultrasound in Obstetrics & Gynecology Education Committee. Sonographic examination of the fetal central nervous system: guidelines for performing the 'basic examination' and the 'fetal neurosonogram'. *Ultrasound Obstet Gynecol* 2007;29(1):109–16. PubMed PMID: [17200992](https://pubmed.ncbi.nlm.nih.gov/17200992/).

Cerebral vessels



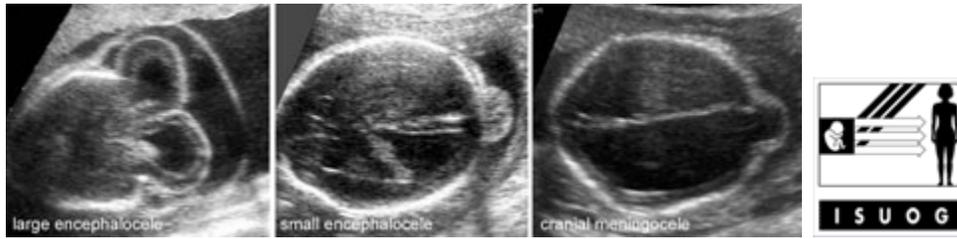
Legend:Cerebral vessels

Anencephaly throughout gestation



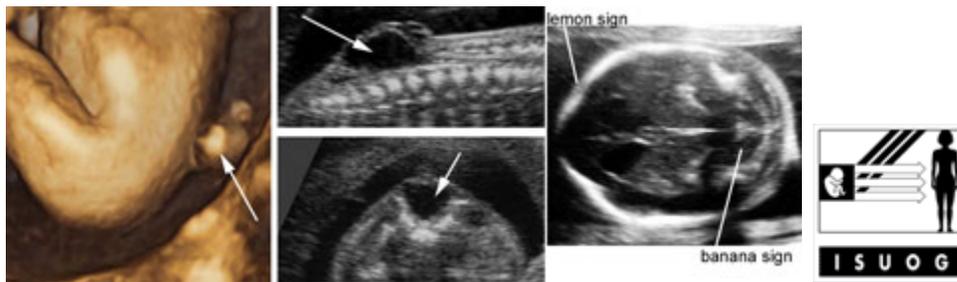
Legend:Anencephaly throughout gestation

Cephaloceles



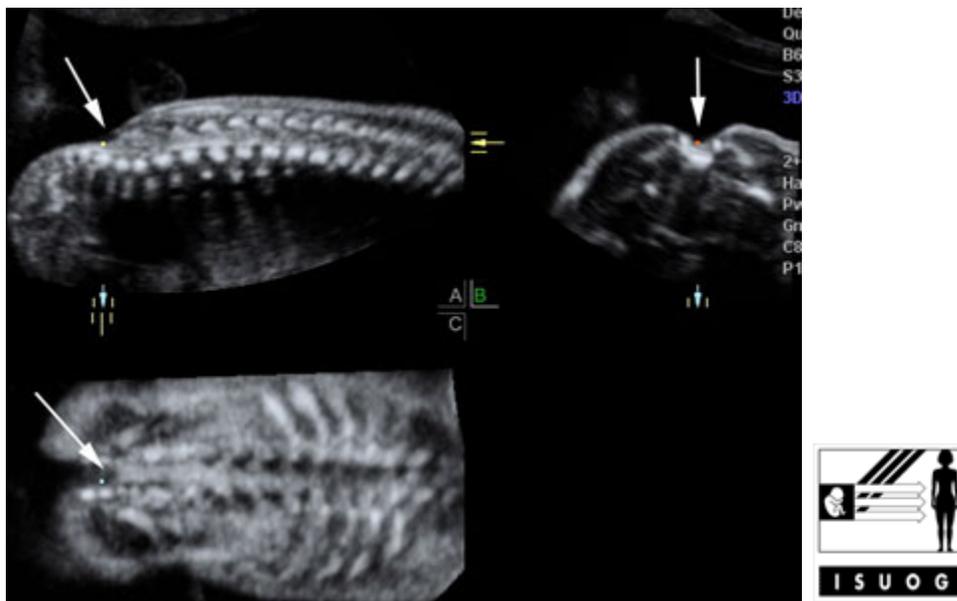
Legend:Cephaloceles

Myelomeningocele



Legend:Myelomeningocele

Myelocele



Legend:Myelocele

Holoprosencephaly



Legend:Holoprosencephaly

Facial anomalies with holoprosencephaly

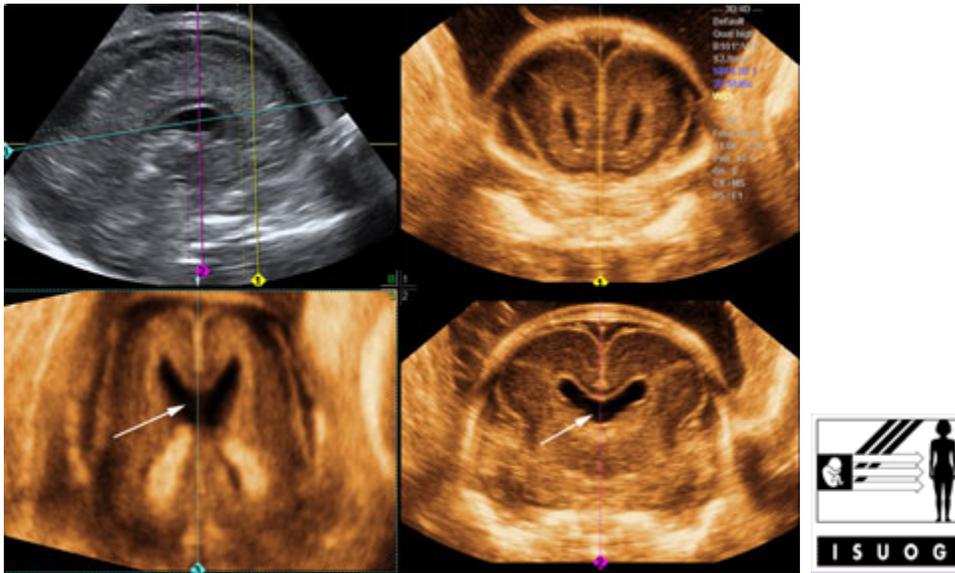
cyclops

median cleft lip



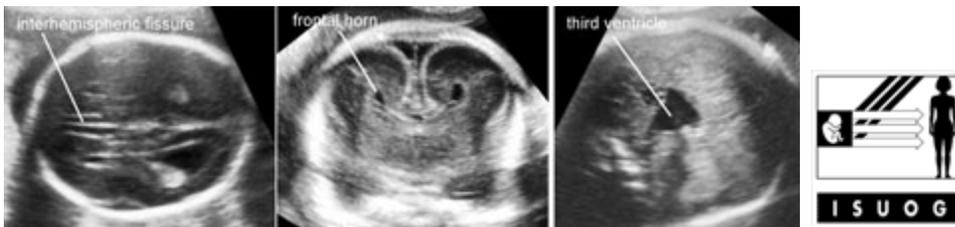
Legend:Facial anomalies with holoprosencephaly

Agenesis of the septum pellucidum



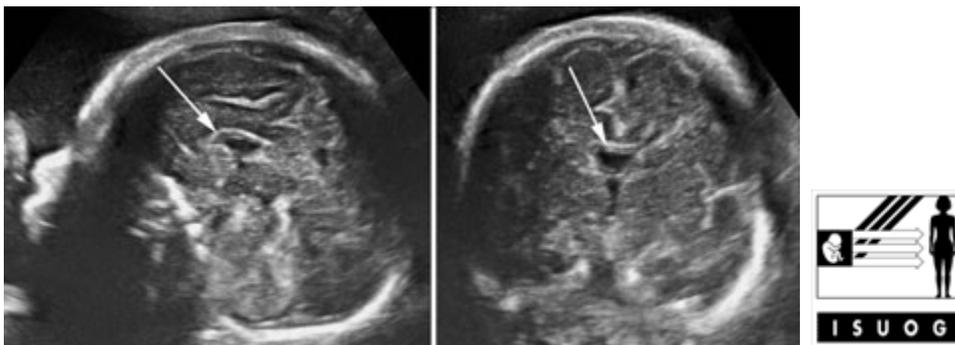
Legend:With agenesia of the septum pellucidum there is a central communication between the cavities of the frontal horns

Complete agenesia of the corpus callosum



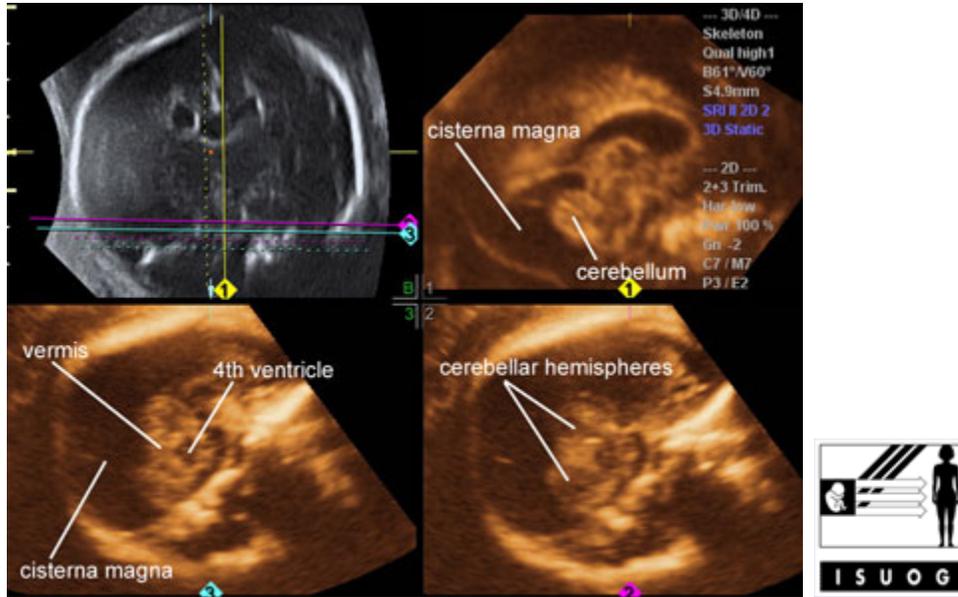
Legend:Complete agenesia of the corpus callosum: in most fetuses with complete agenesia of the corpus callosum there is a wide interhemispheric fissure and lateral separation of frontal horns

Partial agenesia of the corpus callosum



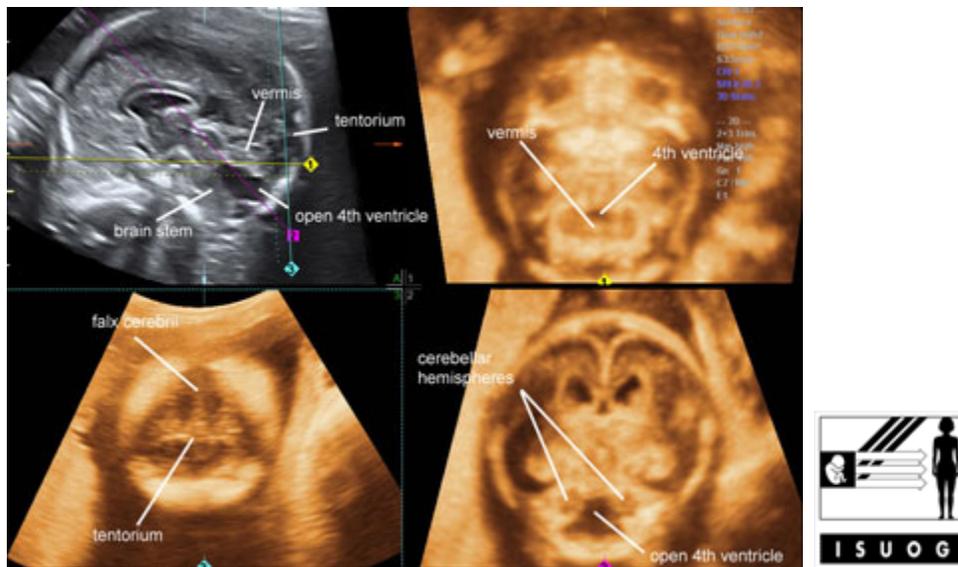
Legend:With partial agenesis of the corpus callosum only the most anterior portion is present

Megacisterna magna



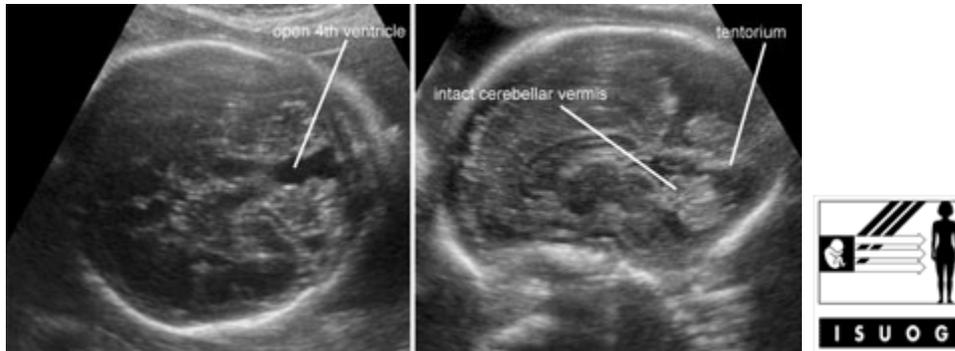
Legend:With megacisterna magna the depth of the cisterna magna is increased but the cerebellum has a normal appearance and the fourth ventricle appears normally closed by the posterior vermis

Dandy-Walker malformation



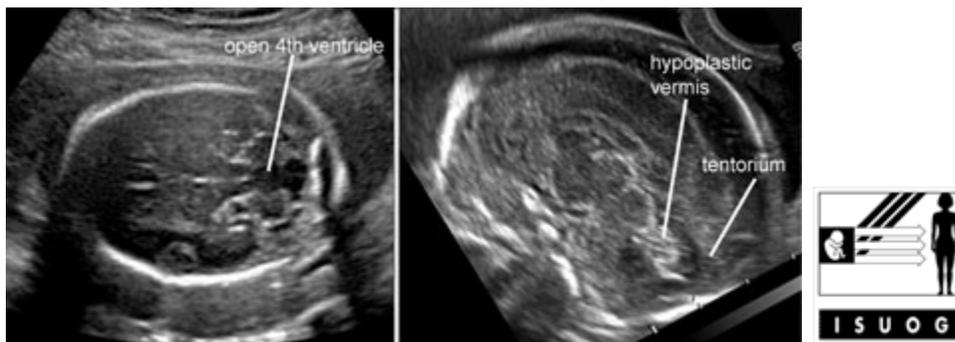
Legend:Dandy-Walker malformation is a distortion of the anatomy of the posterior fossa characterized by the following elements: the cisterna magna is expanded and the tentorium is displaced superiorly, the cerebellar vermis is rotated superiorly and this results in a posterior opening of the fourth ventricle; the vermis may be normal, hypoplastic or absent; the cerebellar hemispheres may be normal or hypoplastic; ventriculomegaly and other anomalies are frequent

Blake's pouch cyst



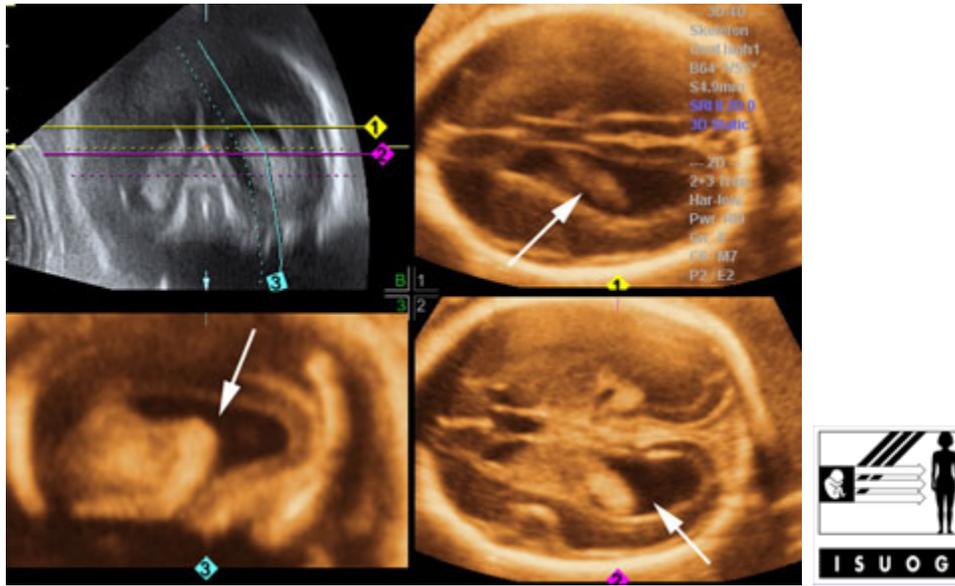
Legend:This anomaly is similar to the Dandy-Walker malformation but for the tentorium that is in a normal position and the vermis that is by definition intact; frequently it is a normal variant without clinical implications

Vermian hypoplasia



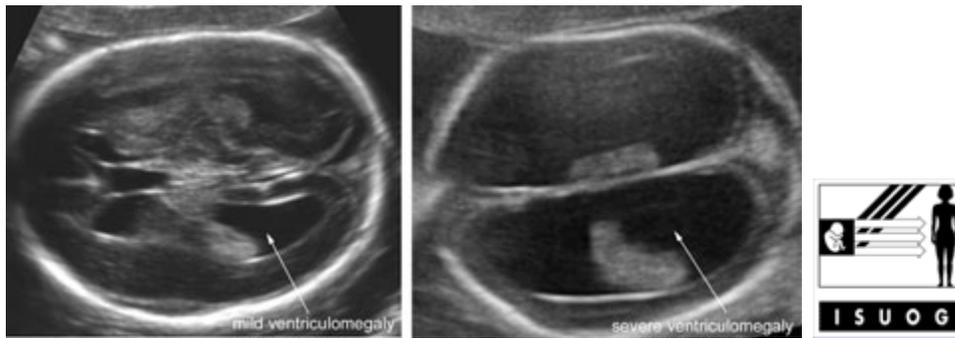
Legend:This anomaly is similar to Blake's pouch cyst but for the hypoplasia of the vermis that is small and dysmorphic. It was once referred to as 'Dandy-Walker variant' and is frequently associated with other anomalies

Cerebral lateral ventriculomegaly



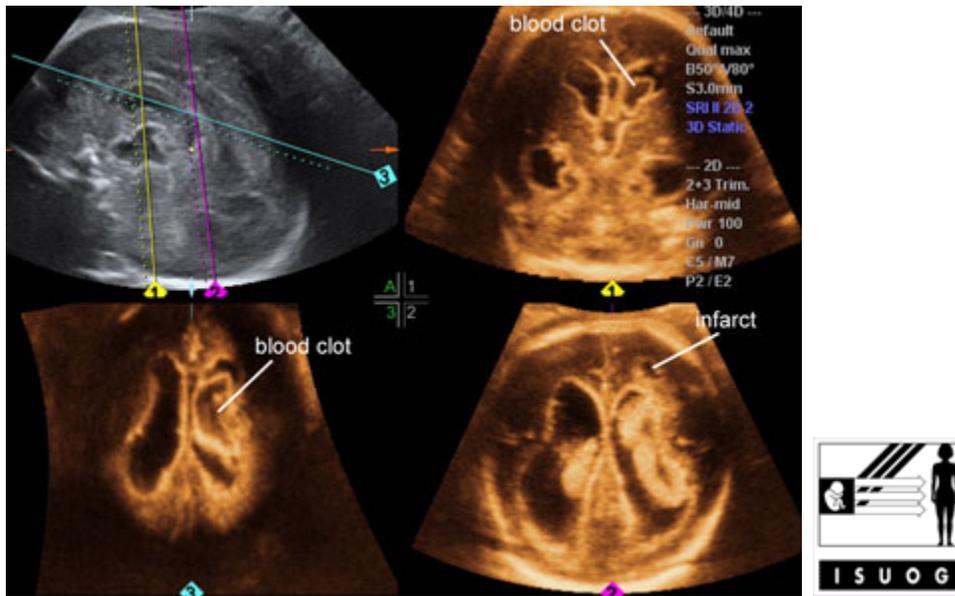
Legend:Cerebral lateral ventriculomegaly

Types of cerebral lateral ventriculomegaly



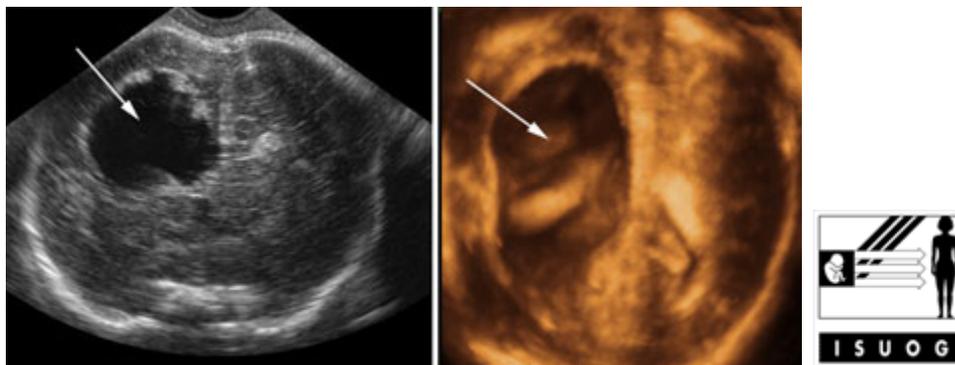
Legend:Types of cerebral lateral ventriculomegaly

Intracranial hemorrhage



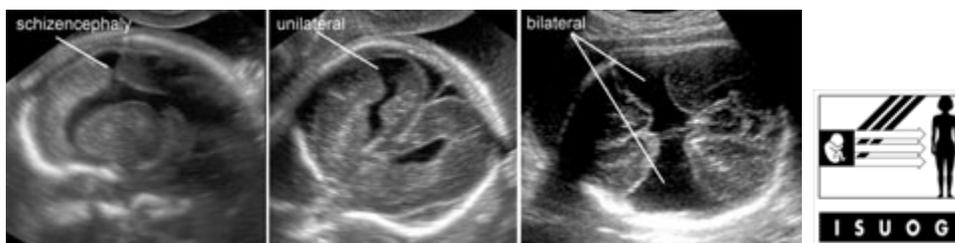
Legend:A large blood clot within the distended lateral ventricles and a cystic cavity in the periventricular cortex suggestive of a parenchymal infarction: this is a grade IV hemorrhage

Porencephalic cyst



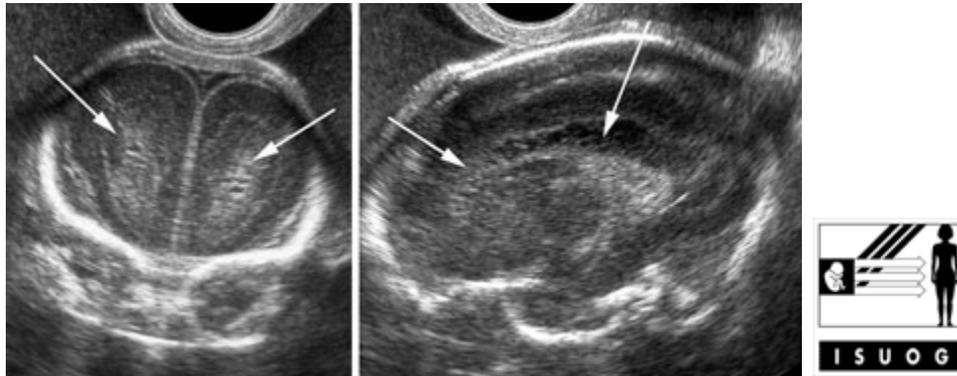
Legend:Porencephalic cyst

Schizencephaly: unilateral and bilateral



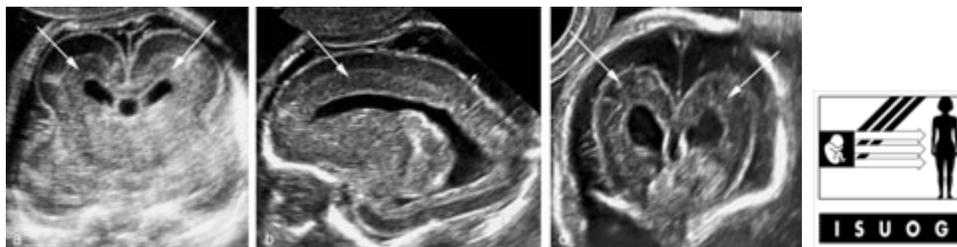
Legend:Schizencephaly: unilateral and bilateral

Periventricular leukomalacia



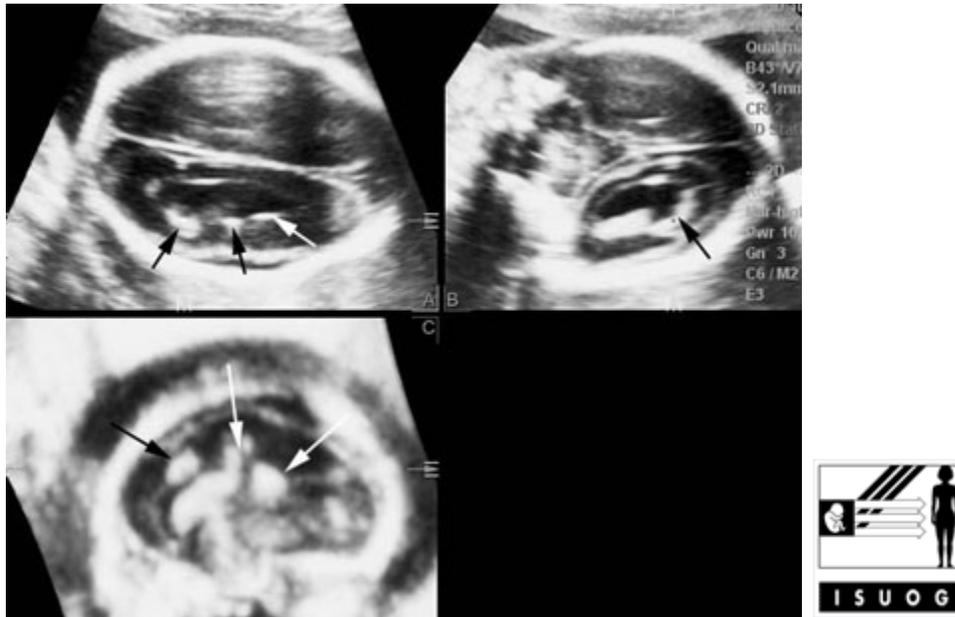
Legend:The cortex in the periventricular area appears inhomogeneous, hyperechogenic with multiple microcysts

Brain findings with fetal cytomegalovirus infection



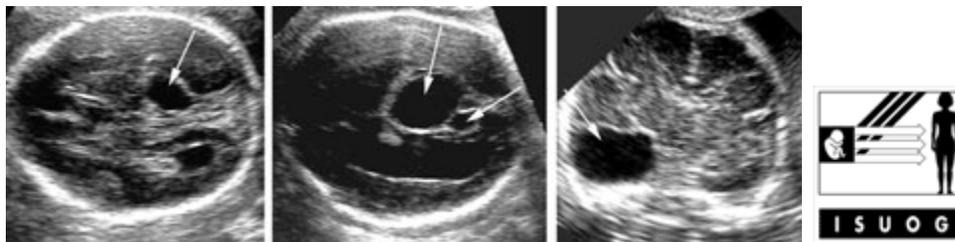
Legend:(a) and (b) Periventricular echogenic halo similar to that described for periventricular leukomalacia, mild ventriculomegaly, irregular choroid plexus; (c) a more severe case; echogenicities within the cortex are associated with an excessive size of the subarachnoid space suggesting microencephaly.

Brain findings with fetal toxoplasmosis



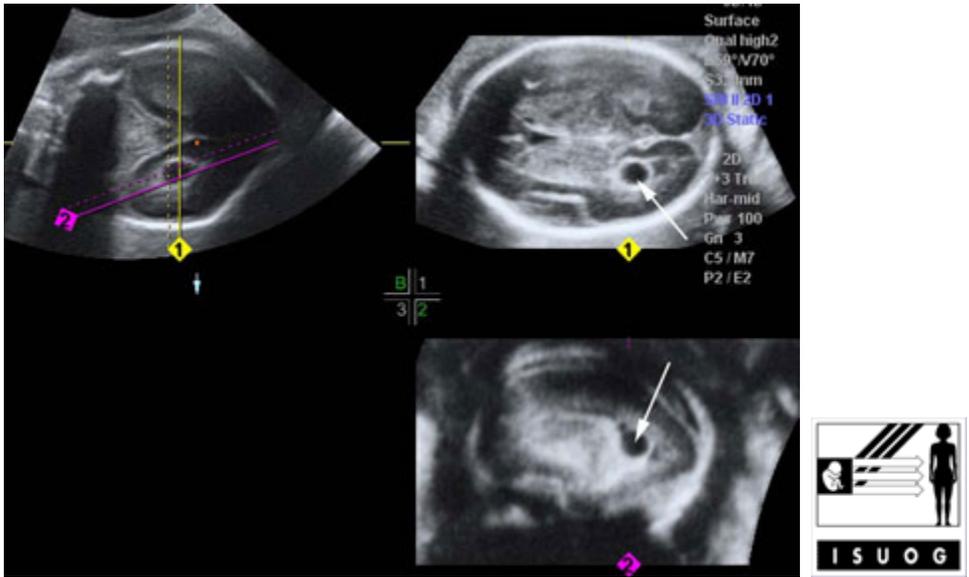
Legend: Mild ventriculomegaly, multiple echogenicities into the cortex

Intracranial arachnoid cysts



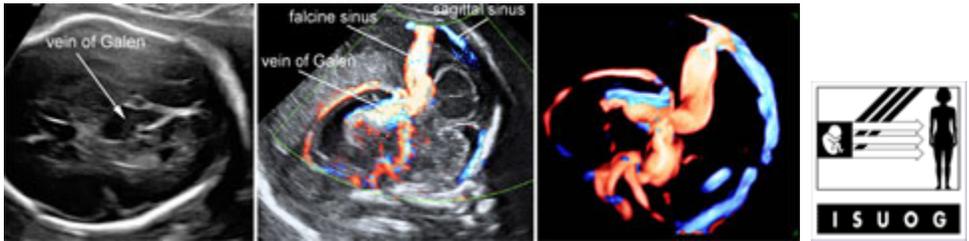
Legend: Intracranial arachnoid cysts

Choroid plexus cyst



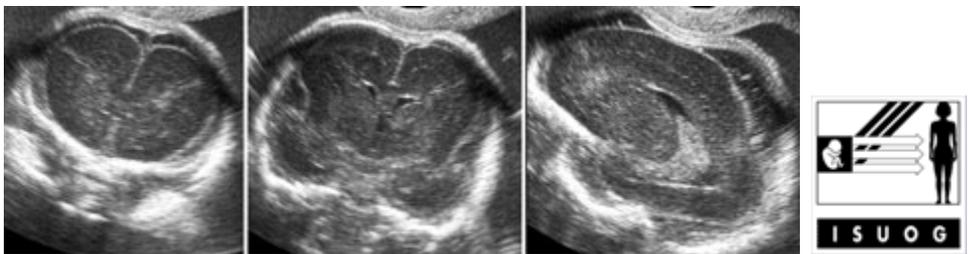
Legend:Choroid plexus cyst

Vein of Galen aneurysm



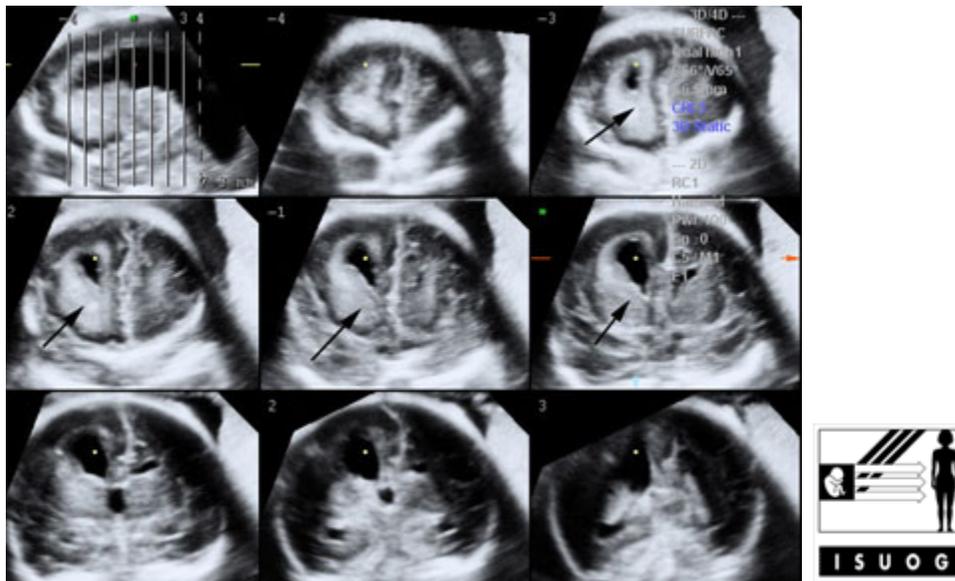
Legend:Vein of Galen aneurysm

Lissencephaly



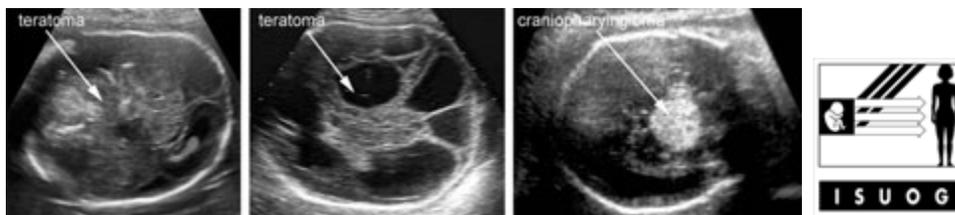
Legend:The surface of the brain is unusually smooth for a fetus at 28 weeks' gestation (the Sylvian fossa is shallow and there is no sign of the cingulate and precentral gyrus; the texture of the cortex is more irregular and echogenic than usual)

Unilateral megalencephaly



Legend:Overgrowth of one hemisphere that appears brightly echogenic with a lateral ventricle irregularly enlarged

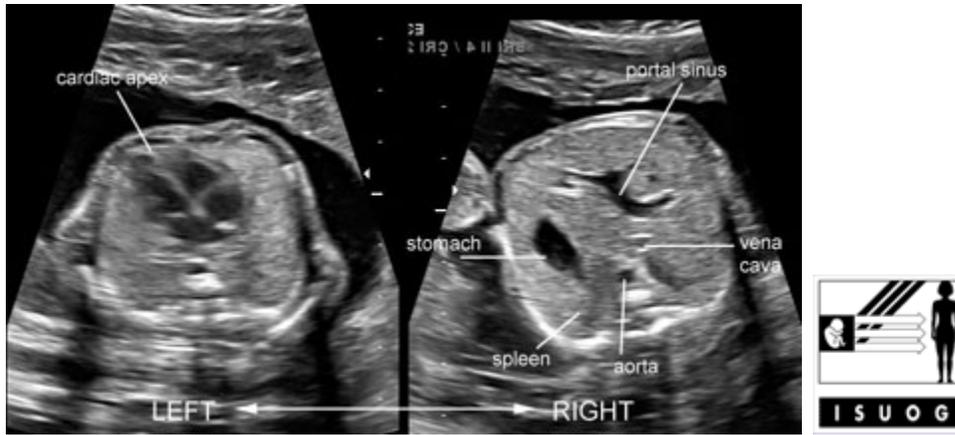
Intracranial tumors



Legend:Teratoma results in complex masses that cannot be clearly differentiated from the surrounding normal brain tissue; craniopharyngioma is a well defined echogenic mass.

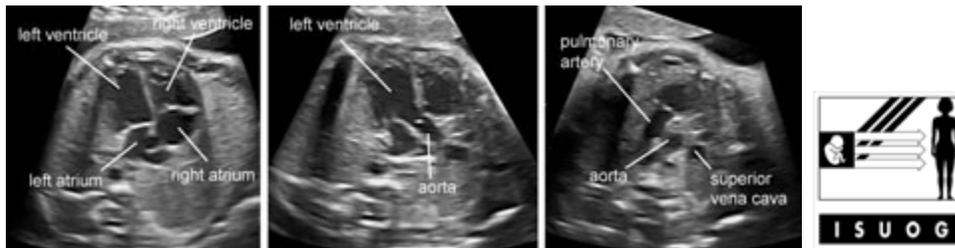
The fetal heart

Normal fetus situs



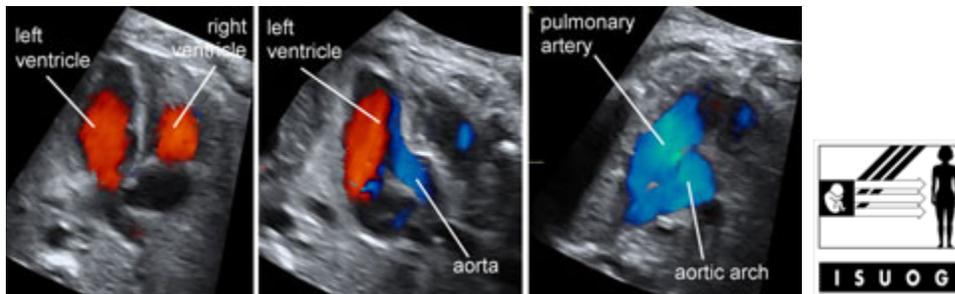
Legend:Normal fetus situs

Two-dimensional gray scale imaging of fetal cardiac connections



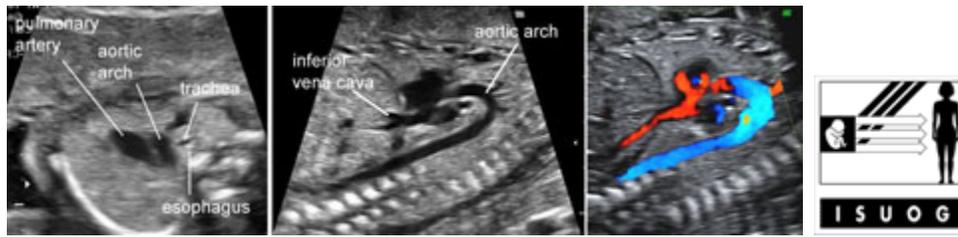
Legend:Two-dimensional gray scale imaging of fetal cardiac connections

Color Doppler of fetal cardiac connections



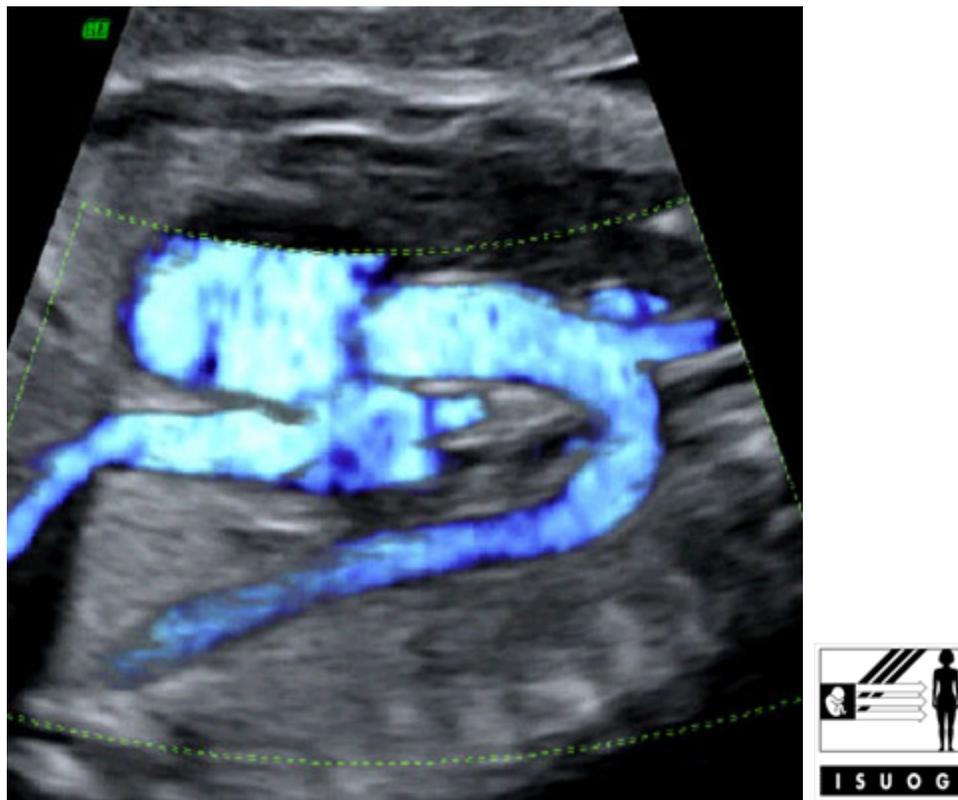
Legend:Color Doppler of fetal cardiac connections

The fetal aortic arch



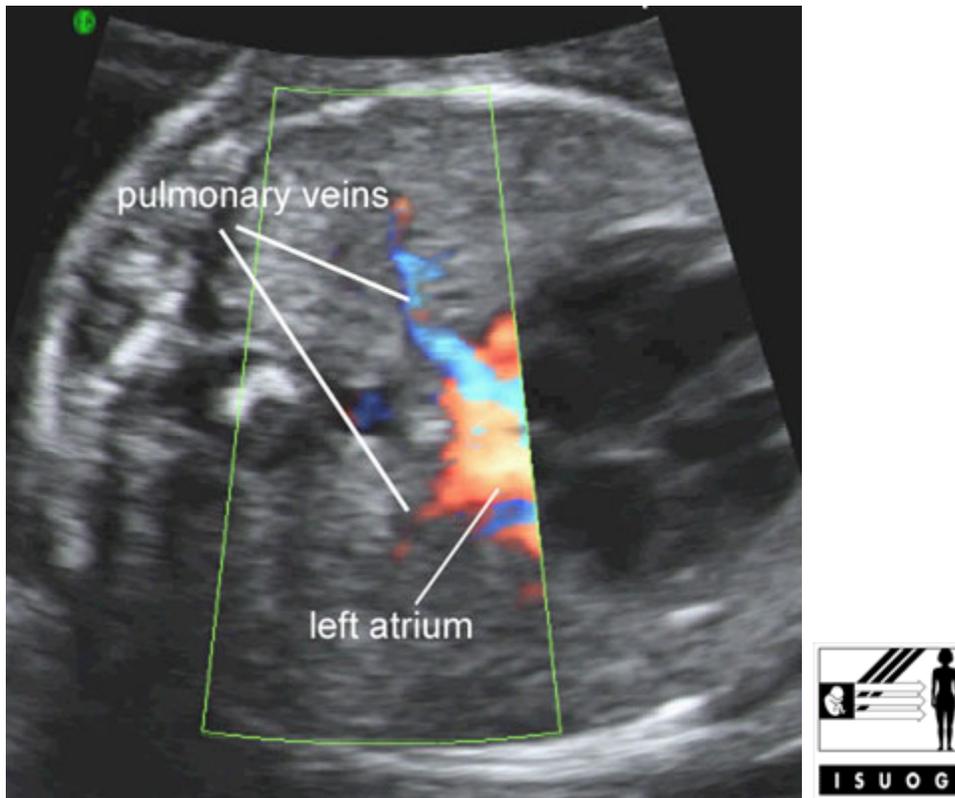
Legend:The fetal aortic arch

High definition flow of the fetal aortic arch



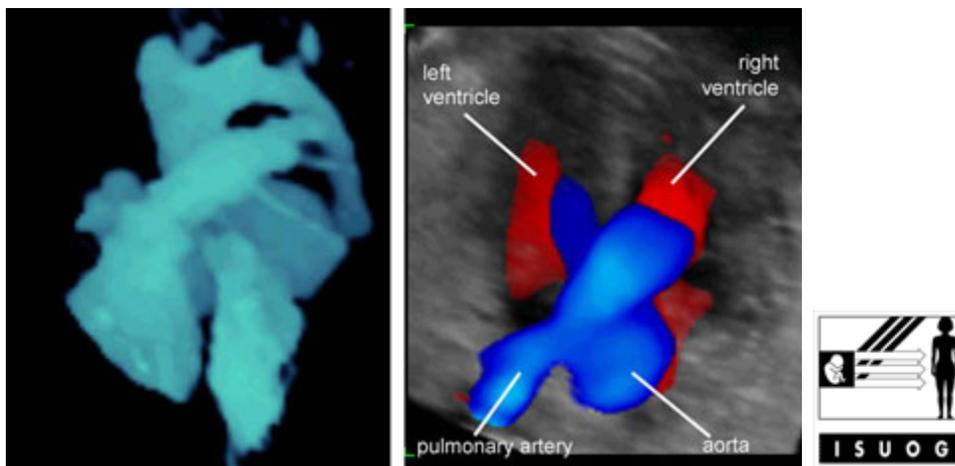
Legend:High definition flow of the fetal aortic arch

Color Doppler of pulmonary veins



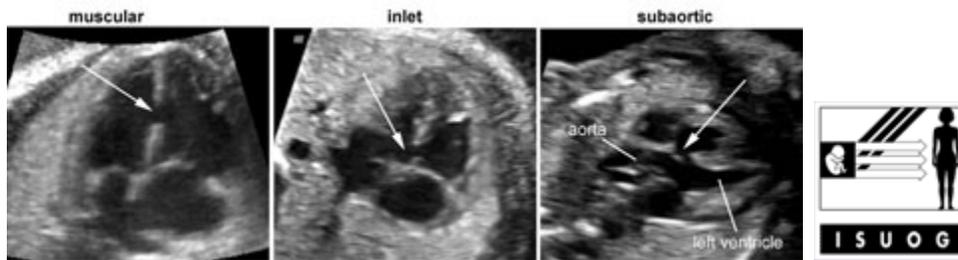
Legend:Color Doppler of pulmonary veins

Three-dimensional ultrasound of normal fetal heart



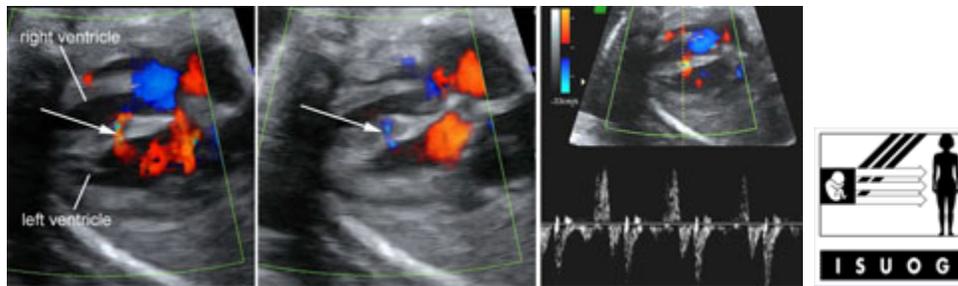
Legend:Three-dimensional ultrasound of normal fetal heart

Two-dimensional gray scale imaging of ventricular septal defects



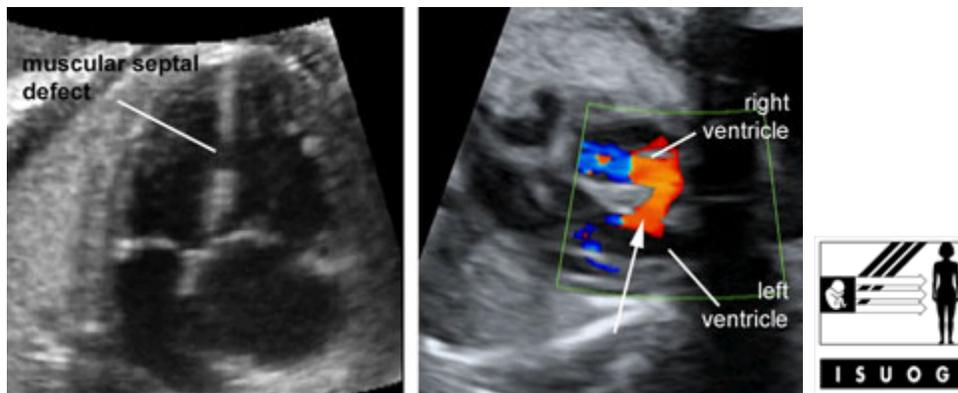
Legend:Two-dimensional gray scale imaging of ventricular septal defects

Color and pulsed Doppler of blood shunting across a muscular ventricular septal defect



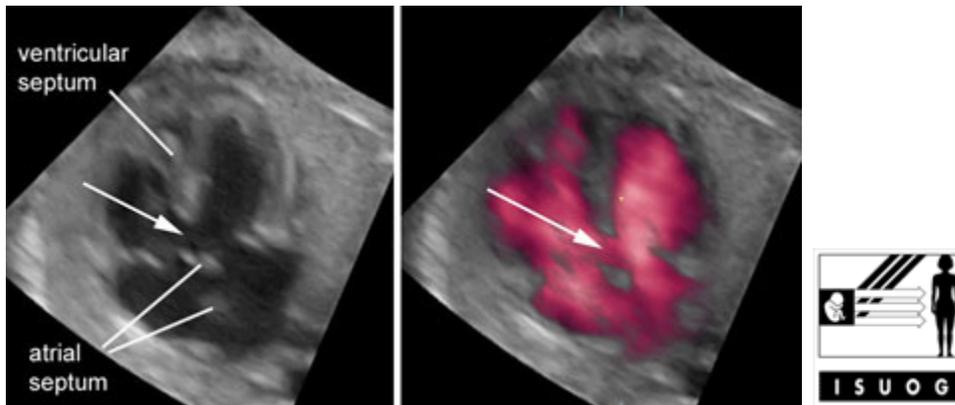
Legend:Color and pulsed Doppler of blood shunting across a muscular ventricular septal defect

Muscular ventricular septal defect



Legend:Muscular ventricular septal defect

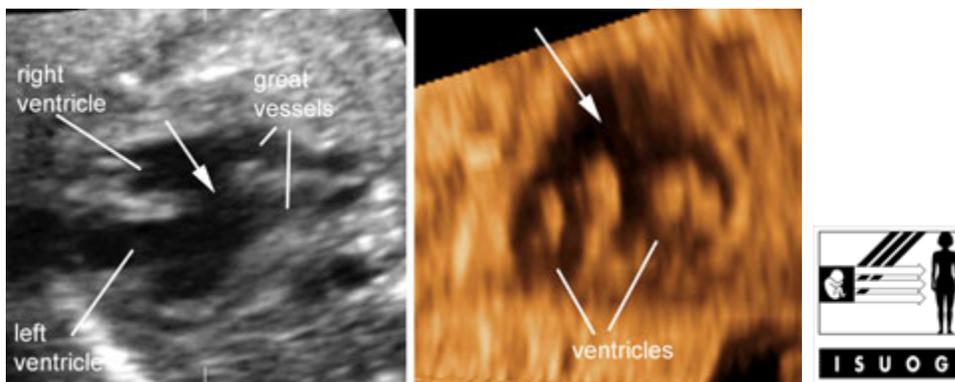
Inlet ventricular septal defect



Legend:Inlet ventricular septal defect

Reference(s):Paladini D, Palmieri S, Lamberti A, Teodoro A, Martinelli P, Nappi C. Characterization and natural history of ventricular septal defects in the fetus. *Ultrasound Obstet Gynecol* 2000;16(2):118–22. PubMed PMID: [11117079](https://pubmed.ncbi.nlm.nih.gov/11117079/).

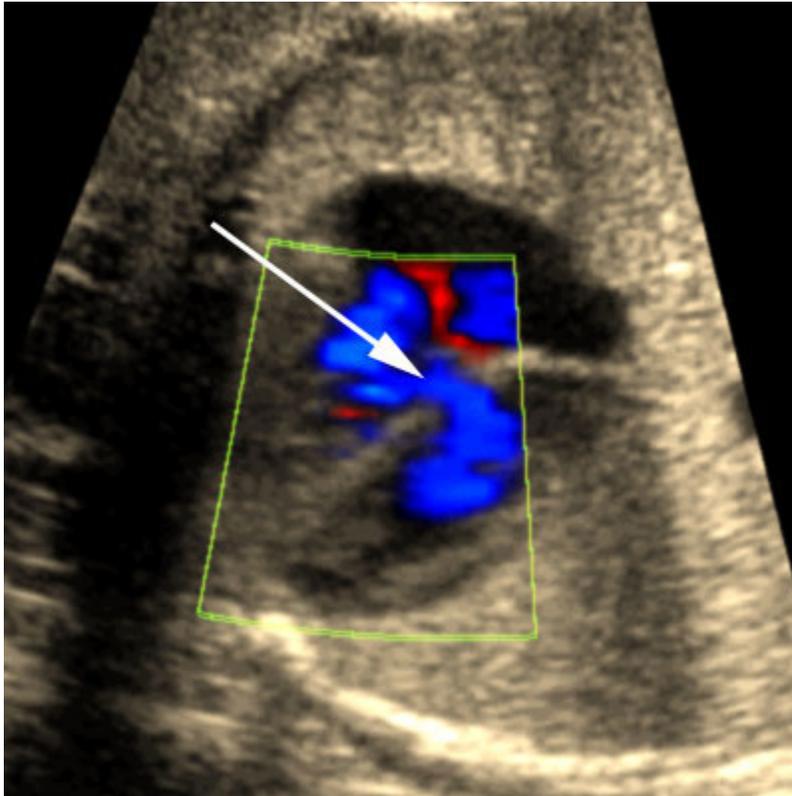
Outlet ventricular septal defect



Legend:Outlet ventricular septal defect: the arrow indicates a large defect of the outlet portion of the ventricular septum associated with malalignment of the great vessels

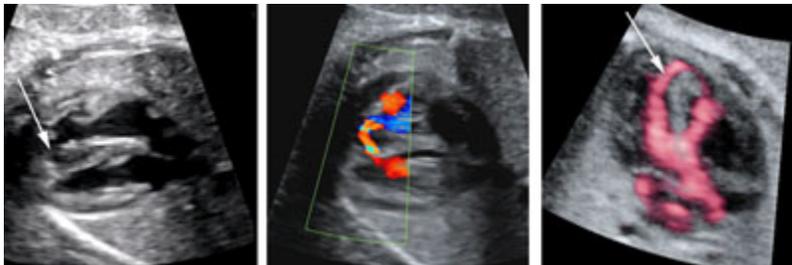
Reference(s):Paladini D, Palmieri S, Lamberti A, Teodoro A, Martinelli P, Nappi C. Characterization and natural history of ventricular septal defects in the fetus. *Ultrasound Obstet Gynecol* 2000;16(2):118–22. PubMed PMID: [11117079](https://pubmed.ncbi.nlm.nih.gov/11117079/).

Perimembranous ventricular septal defect



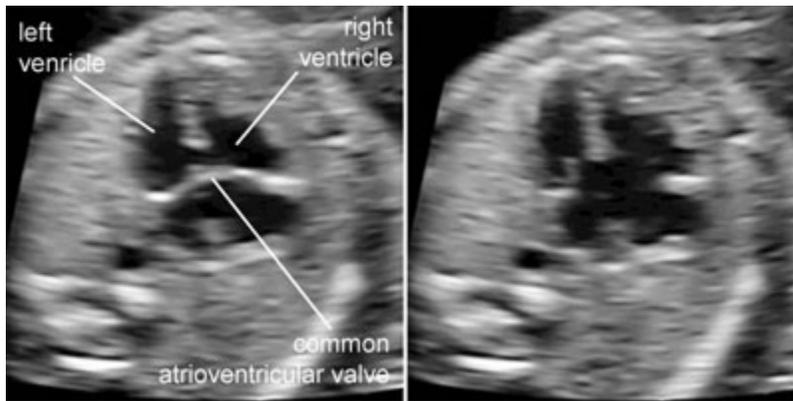
Legend:Perimembranous ventricular septal defect

Apical ventricular septal defect



Legend:Apical ventricular septal defect

Complete atrioventricular canal



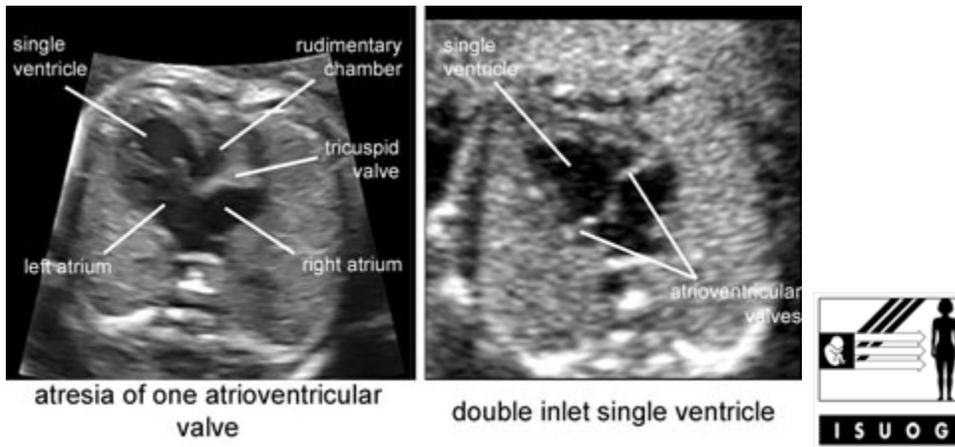
Legend: Complete atrioventricular canal

Partial atrioventricular canal



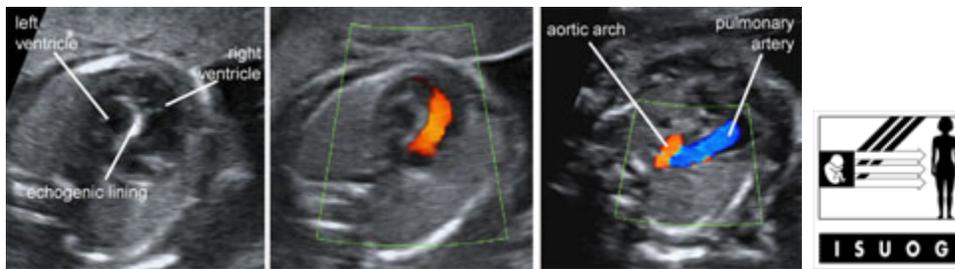
Legend: Partial atrioventricular canal: two separate atrioventricular valves insert at the same level on the ventricular septum, and there is a defect of the atrial septum primum

Single ventricles



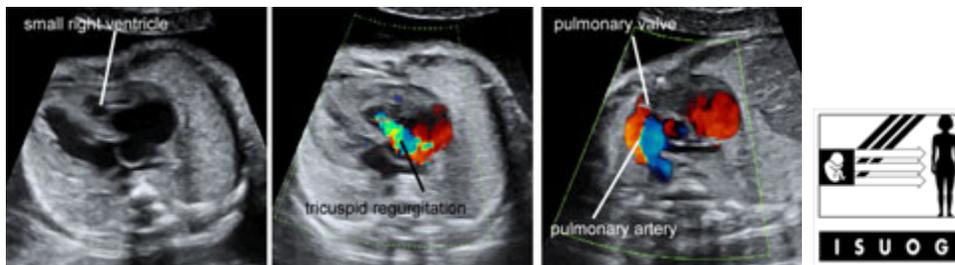
Legend:Types of single ventricles: atresia of the tricuspid valve and double inlet single ventricle

Hypoplastic left heart syndrome



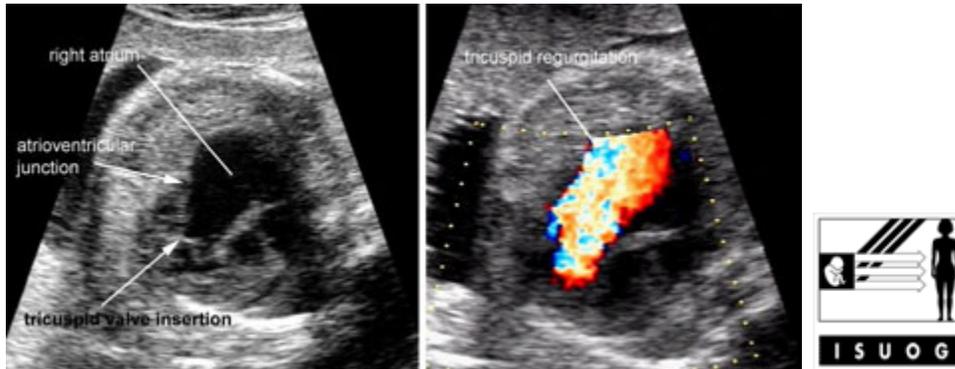
Legend:Hypoplastic left heart syndrome: there is a small left ventricle with an internal echogenic lining suggestive of endocardial fibroelastosis, there is no flow across the mitral valve and the aortic arch is perfused in a retrograde manner

Pulmonary atresia with intact ventricular septum



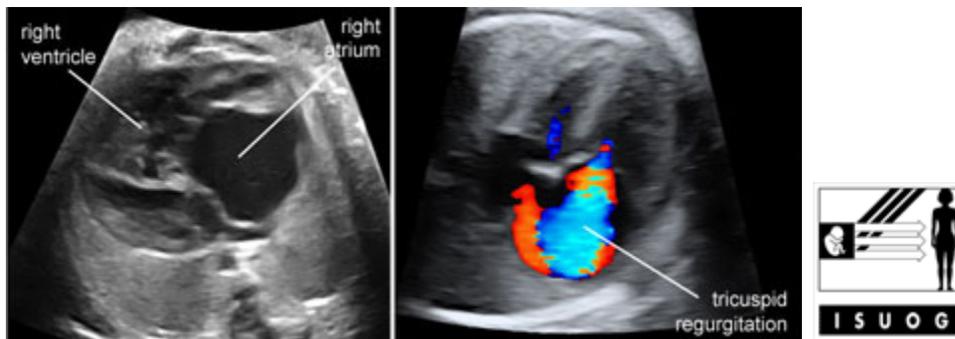
Legend:Pulmonary atresia with intact ventricular septum: the right ventricle is small, there is significant tricuspid regurgitation, there is no flow across the pulmonary valve, and there is streaming of flow into the pulmonary artery as a consequence of retrograde perfusion through the ductus arteriosus

Ebstein malformation of the tricuspid valve



Legend: Ebstein malformation of the tricuspid valve: the leaflets of the tricuspid valve are displaced apically compared to the atrioventricular junction and there is massive tricuspid regurgitation

Tricuspid dysplasia



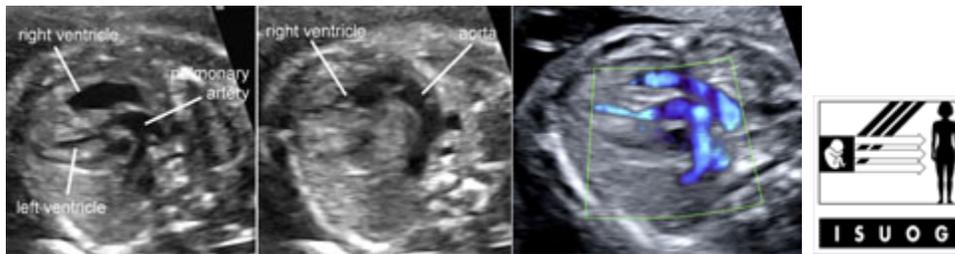
Legend: Cardiomegaly, enlargement of the right side of the heart and right atrium in particular, massive regurgitation across a normally inserted tricuspid valve

Tetralogy of Fallot



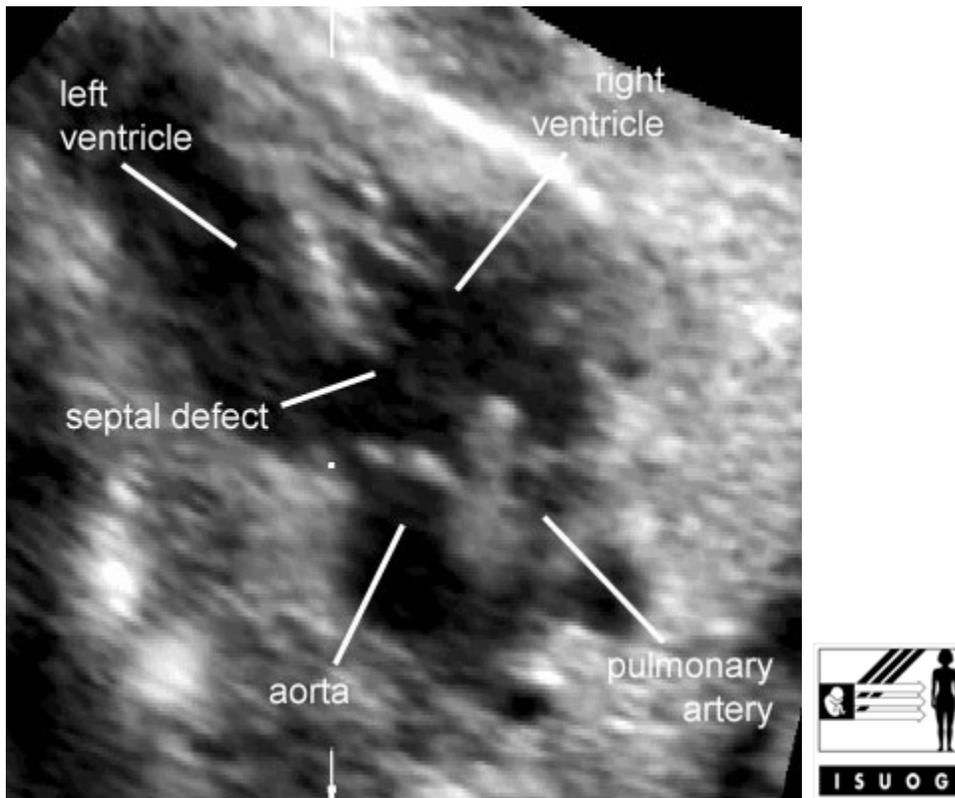
Legend: Tetralogy of Fallot: a large aorta overrides the ventricular septum, the pulmonary artery patent but significantly reduced in size and the right outflow tract is restricted

Complete transposition of great arteries



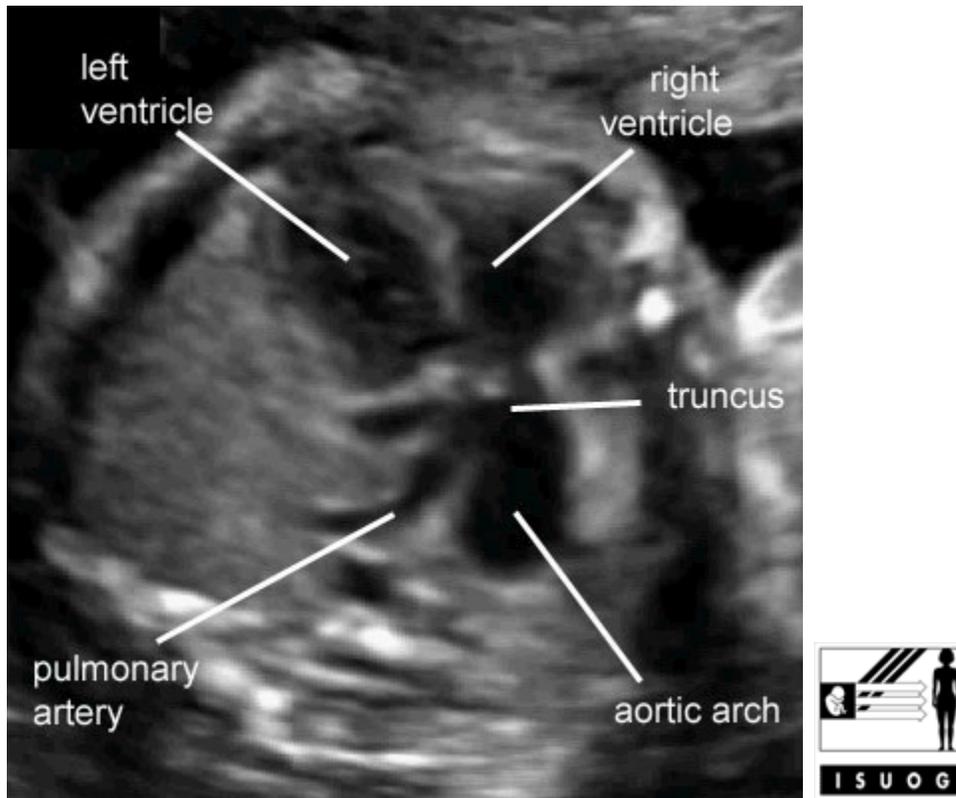
Legend:Complete transposition of great arteries: two great vessels arise in parallel fashion from the base of the heart without crossing; the posterior vessel connected to the left ventricle bifurcates and can therefore be positively identified as the pulmonary artery; the anterior vessel arising from the right ventricle has a long upward course and is the aortic arch

Double outlet right ventricle



Legend:Double outlet right ventricle: there is large outlet septal defect and the two great arteries arise side by side predominantly from the right ventricle

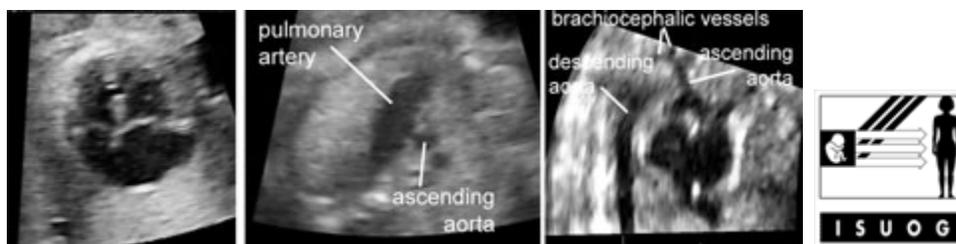
Truncus arteriosus communis



Legend:Truncus arteriosus communis: a single large vessel with a thickened valve arises from the base the heart and give rise to the aortic arch and main pulmonary artery

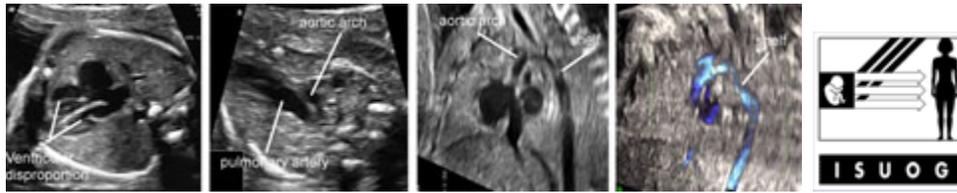
Reference(s):Paladini D, Rustico M, Todros T, Palmieri S, Gaglioti P, Benettoni A, Russo MG, Chiappa E, D'Ottavio G. Conotruncal anomalies in prenatal life. *Ultrasound Obstet Gynecol* 1996;8(4):241–6. PubMed PMID: [8916376](https://pubmed.ncbi.nlm.nih.gov/8916376/).

Interrupted aortic arch



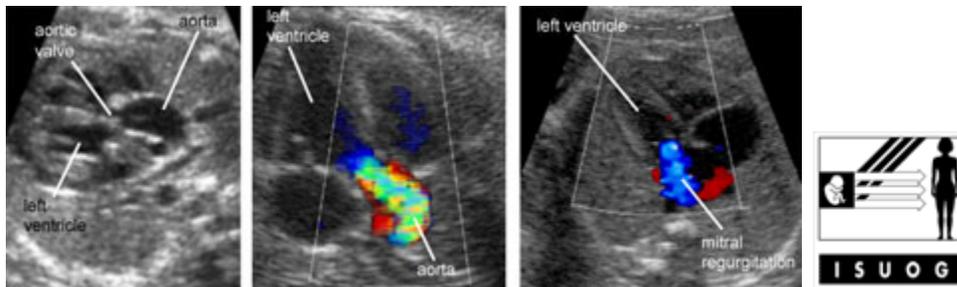
Legend:Interrupted aortic arch: there is ventricular disproportion and the ascending aorta is not connected to the descending portion

Coarctation/tubular hypoplasia of aortic arch



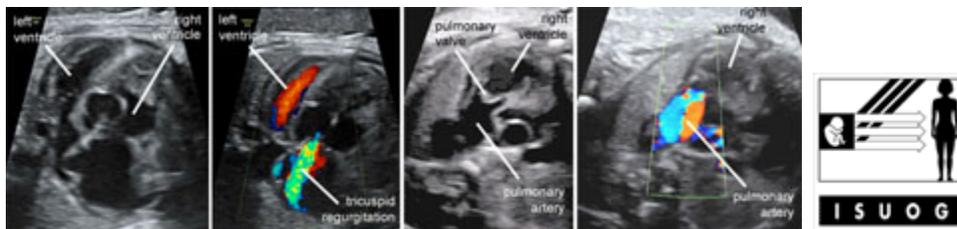
Legend:Coarctation/tubular hypoplasia of aortic arch: ventricular disproportion with dominance of the right cavities, small aortic arch compared to the ductal arch in the transverse view, small and tortuous aortic with the impression of a shelf in the longitudinal views

Aortic stenosis



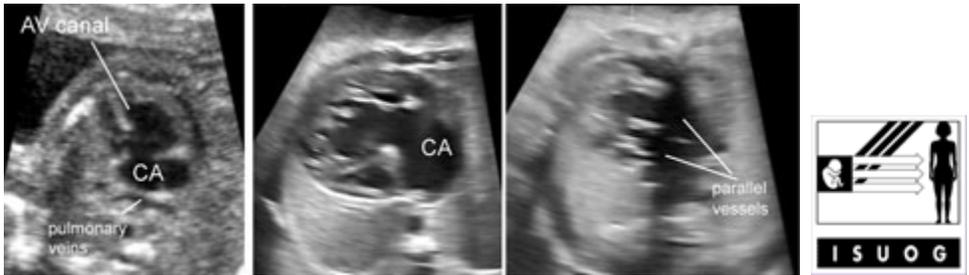
Legend:Aortic stenosis: hypertrophic left ventricle, thickened aortic valve, slightly enlarged aortic root with high velocity turbulent flow and mitral regurgitation

Pulmonic stenosis



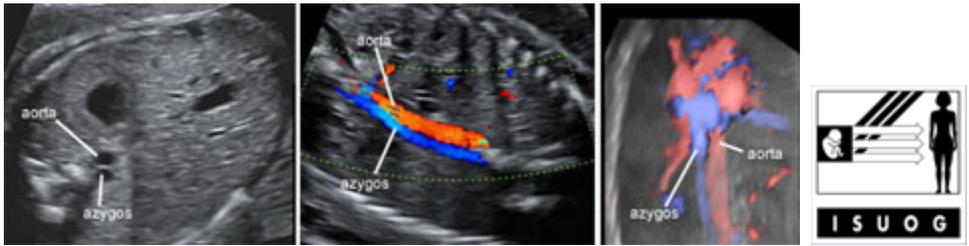
Legend:Pulmonic stenosis: severe hypertrophy of right ventricle with little anterograde flow and regurgitation across the tricuspid valve; thickened and poorly opening pulmonary valve; streaming of flow into the pulmonary artery due to the combination of anterograde high velocity flow across the stenotic pulmonic valve and retrograde flow from the ductus venosus

Cardiac anomalies associated with isomerism



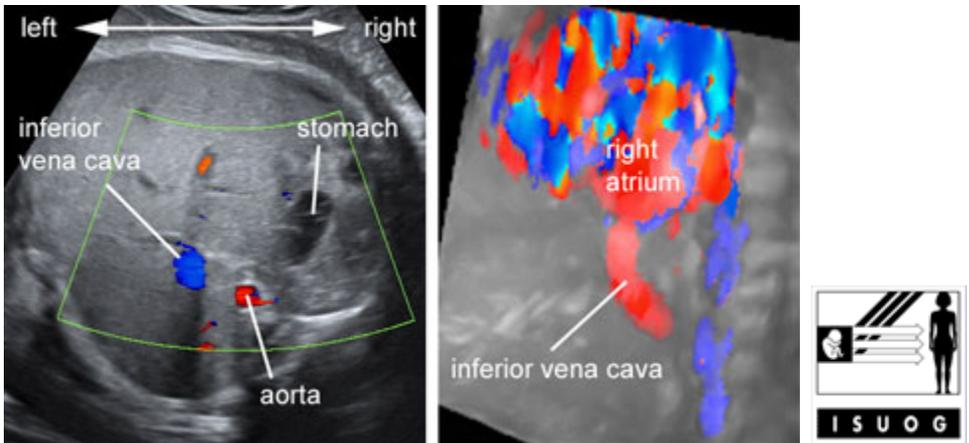
Legend:Cardiac anomalies associated with isomerism: common atrium (CA), atrioventricular canal (AV canal) with abnormal connections of the pulmonary veins, parallel great vessels

Left isomerism



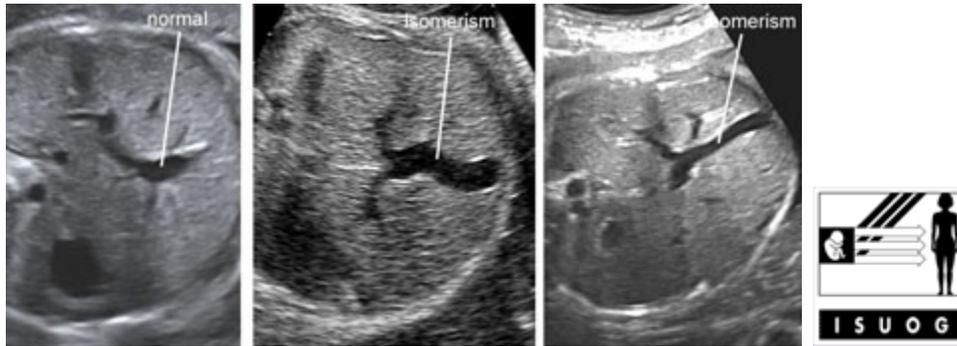
Legend:Left isomerism: interruption of the inferior vena cava with azygos continuation

Right isomerism



Legend:Right isomerism: abnormal disposition of abdominal organs; the inferior vena cava is present

Liver in isomerism



Legend: Liver in isomerism