

Le cerveau foetal: du normal au pathologique

Formation Echofoetus-17 octobre 2025



LA LIGNE MÉDIANE

(SUS-TENTORIELLE; T₂ T₃)

ANNE SOPHIE WEINGERTNER, CHU STRASBOURG



Pré-requis - Objectifs



- Connaître l'anatomie cérébrale de la ligne médiane
 - Structures principales visibles
 - Chronologie du développement
- Comment je l'analyse sur les 3 plans
- Comment je reconnais une anomalie de la ligne médiane en dépistage
- Quelles pathologies



Anatomie de la ligne médiane



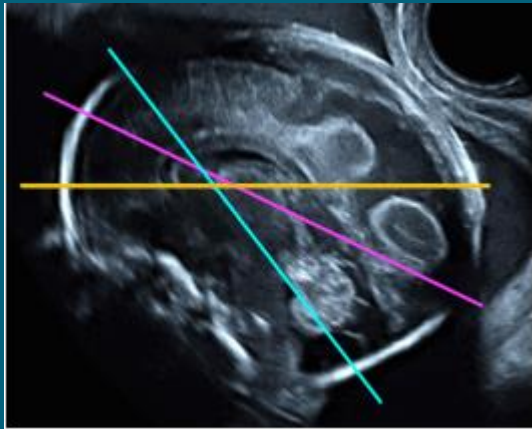
- Structures principales visibles
 - Faux du cerveau
 - Septum pellucidum (SP) et cavum septi pellucidi (CSP)
 - Troisième ventricule
 - Corps calleux
 - *Vermis cérébelleux (au niveau postérieur)*

Anatomie de la ligne médiane



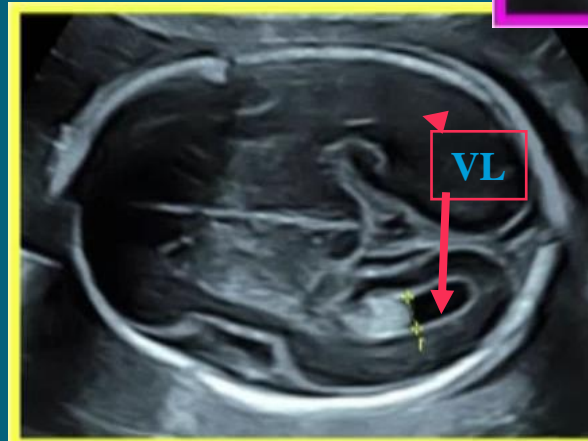
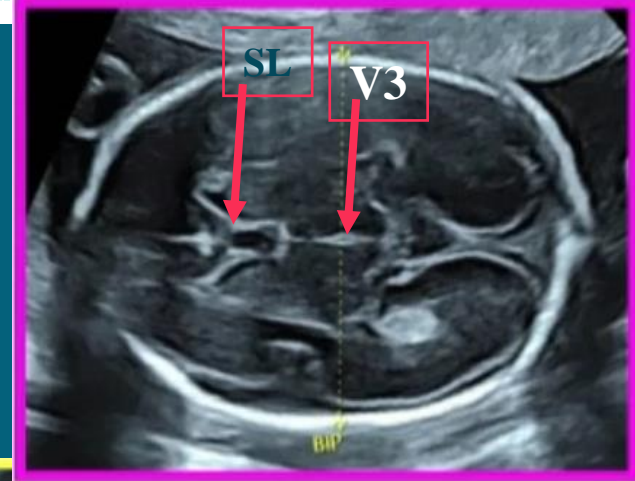
- Chronologie du développement
 - Formation du corps calleux (12–20 SA)
 - Apparition et fermeture du CSP
 - *Maturation du vermis cérébelleux*

Plans de coupe axiaux

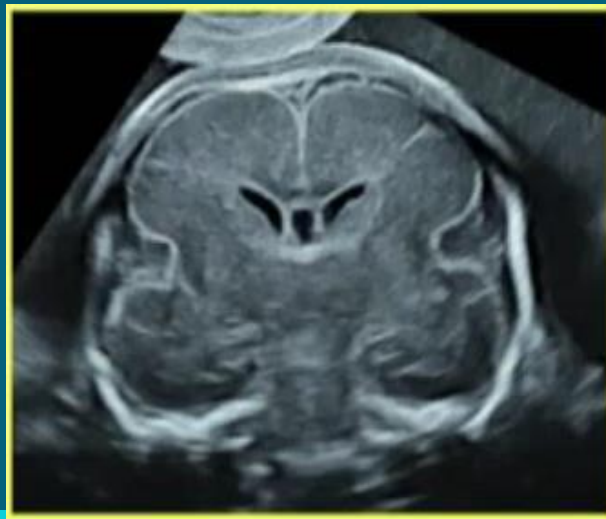
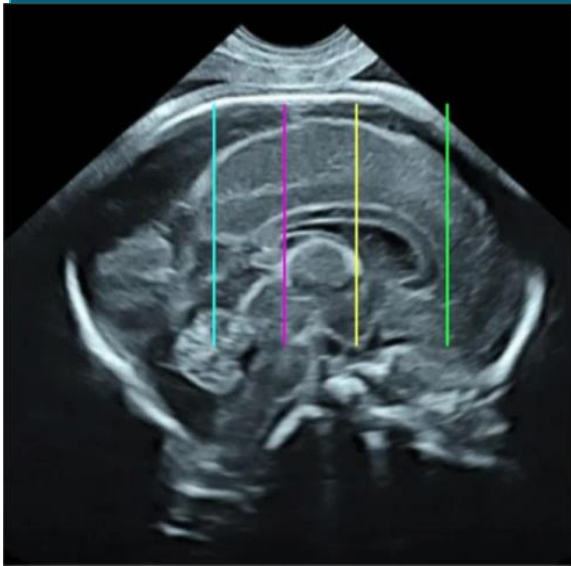


PLANS DE COUPE

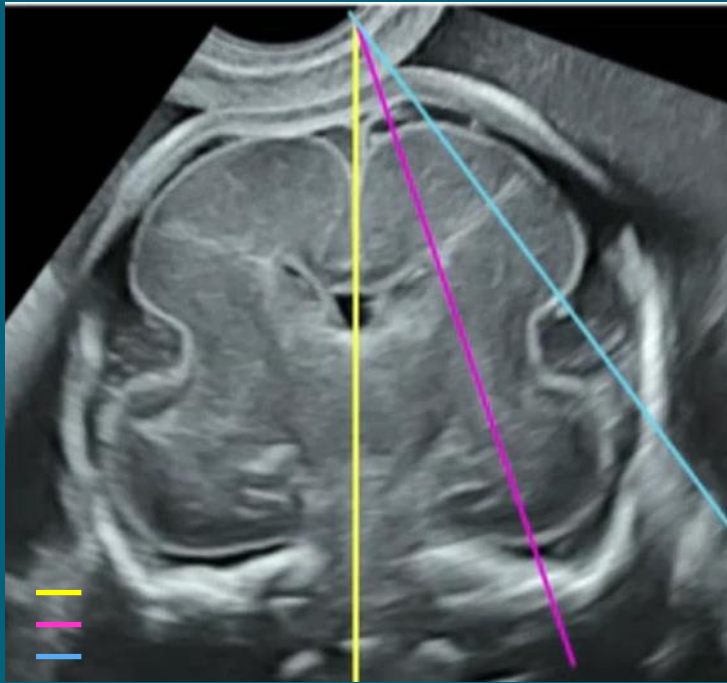
- Plan du diamètre bipariétal
- Plan des ventricules latéraux (le plan retenu est le plan de la mesure du diamètre atrial)
- Plan de la fosse postérieure



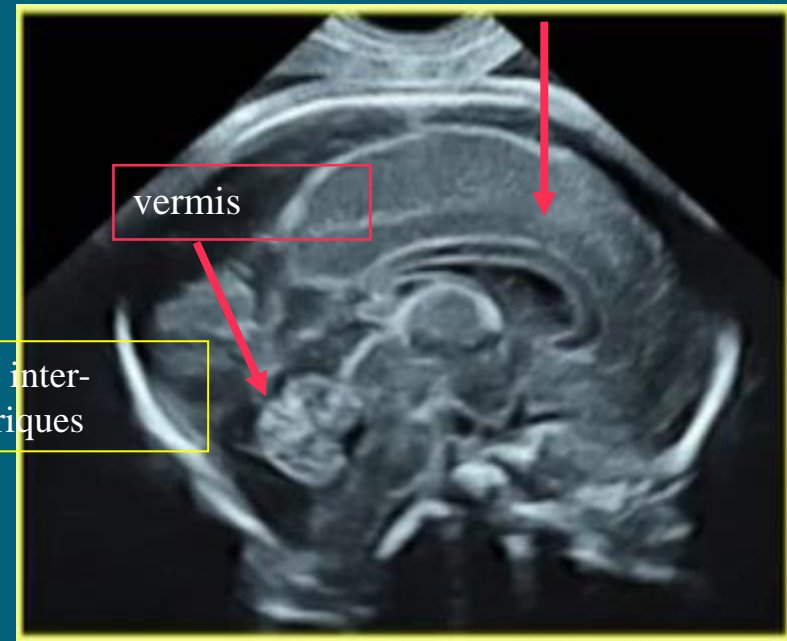
Plans de coupe frontaux



Plan de coupe sagittal strict



Plan de la ligne médiane
Coupe parasagittale: les ventricules
Coupe parasagittale: la vallée sylvienne



Corps calleux

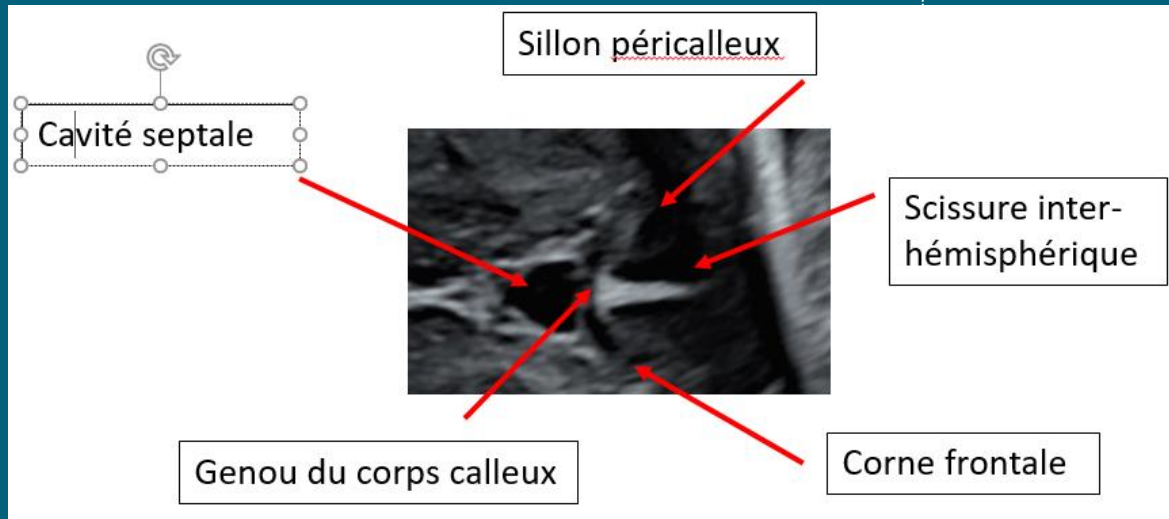
vermis

Structures inter-hémisphériques

Signes d'appel en dépistage



- Complexe antérieur++



- Les autres signes

- Colpocéphalie
- Ventriculomégalie
- Asymétrie
- Disruption
- Image d'addition

Pathologies de la ligne médiane sus-tentorielle



- **Agénésies du corps calleux**
 - Totale ou partielle
 - Dysgénésies?
 - Anomalies biométriques?
- **Anomalies de la cavité septale**
 - Aplasie/absence du CSP (holoprosencéphalie, dysplasies septo-optiques)
- **Holoprosencéphalies**
 - Formes alobaire, semi-lobaire, lobaire
- **Kystes de la ligne médiane**
- **Anomalies vasculaires**
- **Autres**

Diagnostic différentiel et pièges

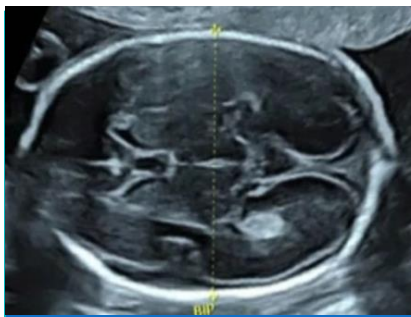


- Variants physiologiques
- Anomalies minimales sans conséquence
- Ex
 - Petite cavité septale, cavum vergae
 - Kyste du velum interpositum
- Limites de l'échographie en fonction du terme et de la position fœtale.
- Apport complémentaire de l'IRM fœtale.

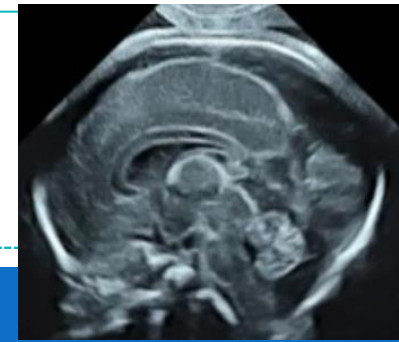
Conséquences et pronostic



- Corrélations cliniques postnatales.
- Impact sur le développement neurocognitif.
- Importance du conseil génétique et du suivi multidisciplinaire.



Agénésies du corps calleux



- Agénésie complète du corps calleux

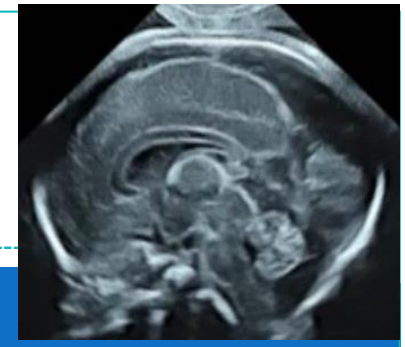
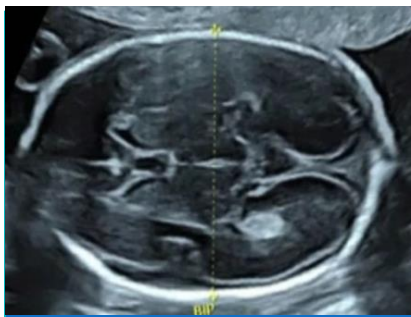
Signes indirects

- Non visualisation du complexe antérieur
- Dysmorphie des cornes frontales
- Colpocéphalie

Signes directs

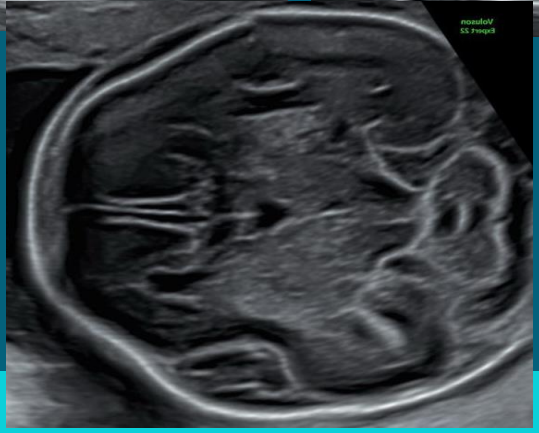
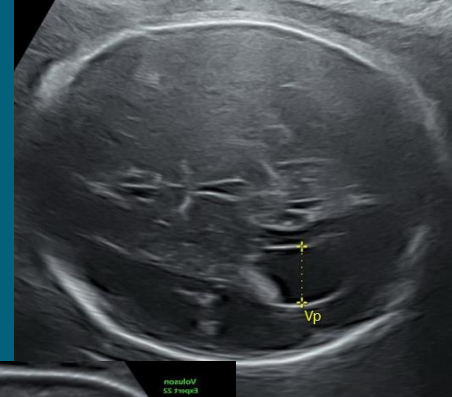
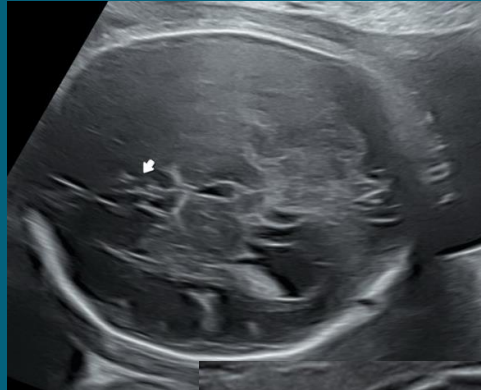
- Non visualisation du corps calleux
- Dc différentiel: agénésie partielle

Agénésies du corps calleux

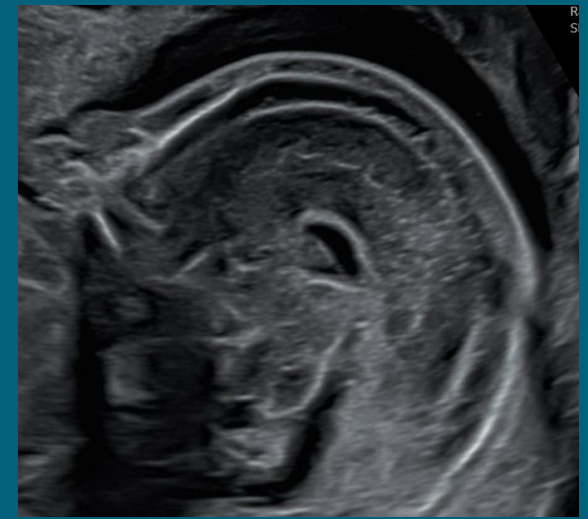


- Agénésie complète du corps calleux

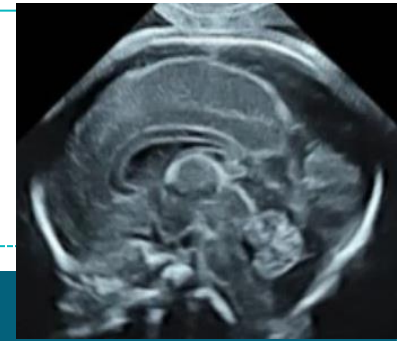
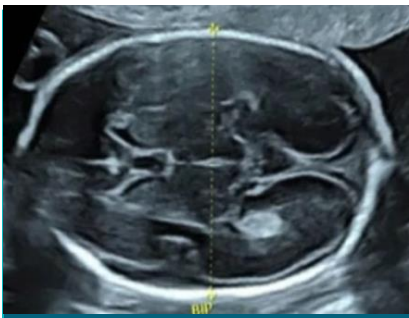
Signes indirects



Signes directs

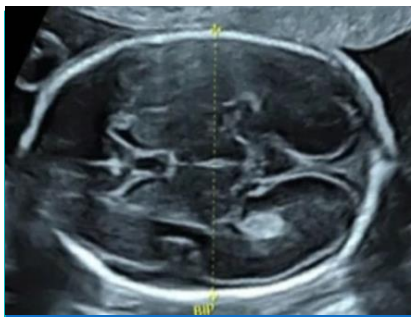


Agénésies du corps calleux

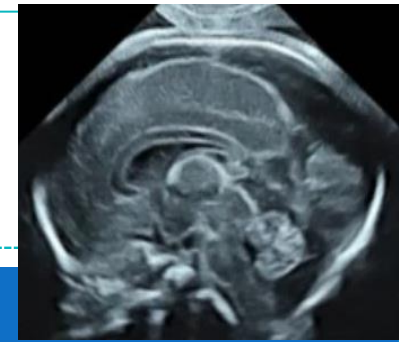


- Agénésie complète du corps calleux





Agénésies du corps calleux



Agénésie partielle du corps calleux

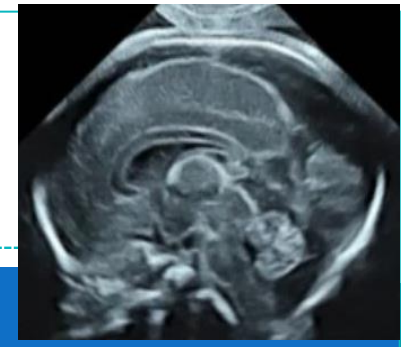
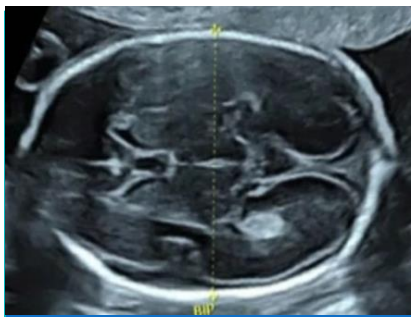
- Signes indirects

- Anomalie du complexe antérieur
 - ✦ Cavum présent
 - ✦ Forme inhabituelle
- Anomalie associée

- Signe direct

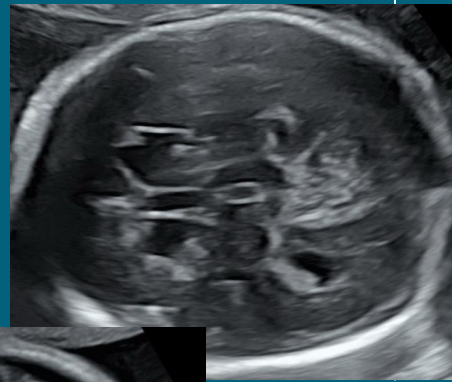
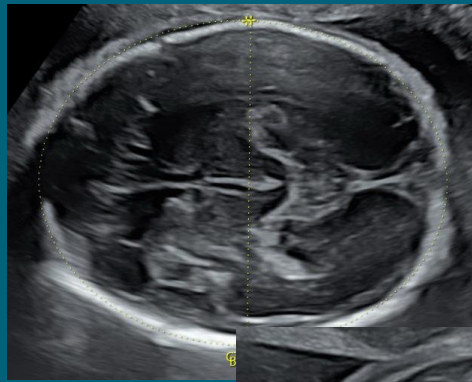
- Corps calleux trop court
- Forme inhabituelle

Agénésies du corps calleux

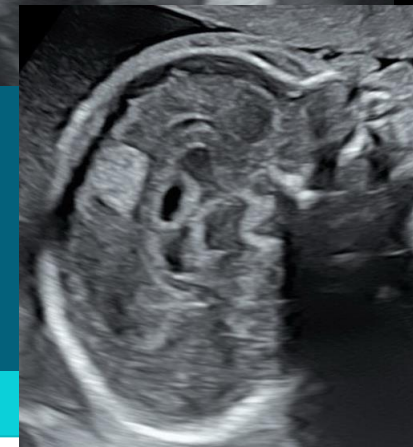


Agénésie partielle du corps calleux

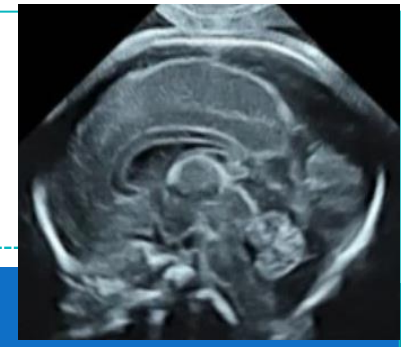
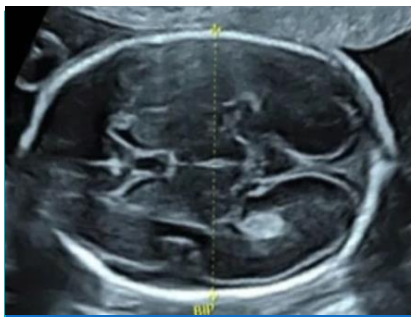
- Signes indirects



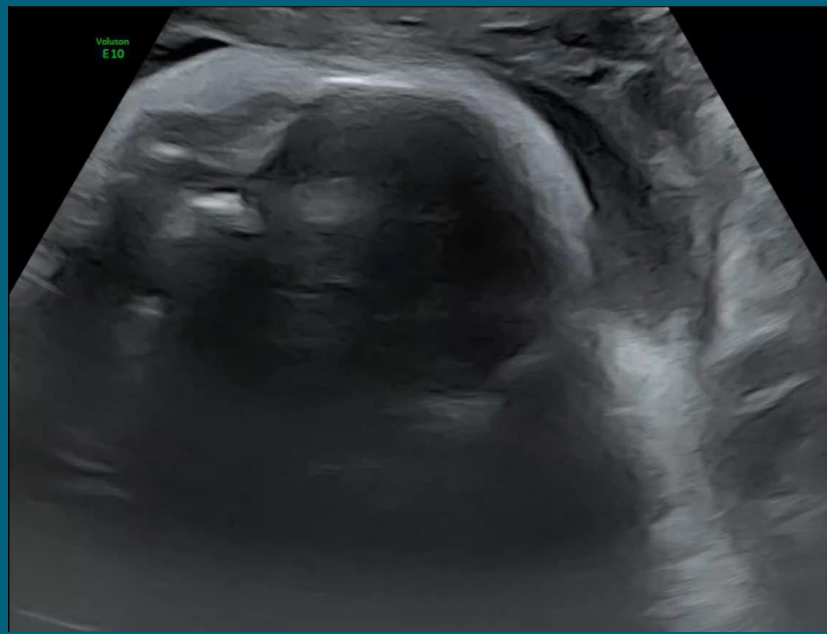
- Signes directs



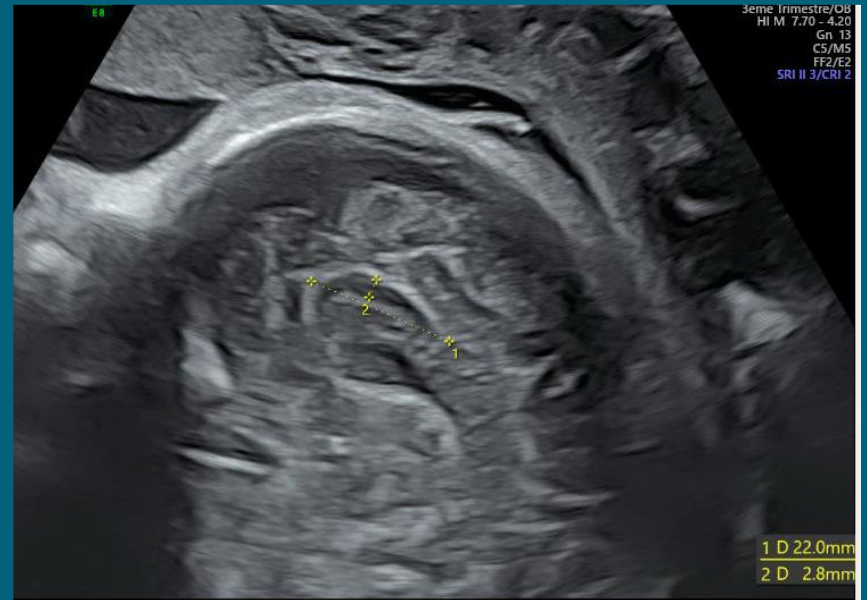
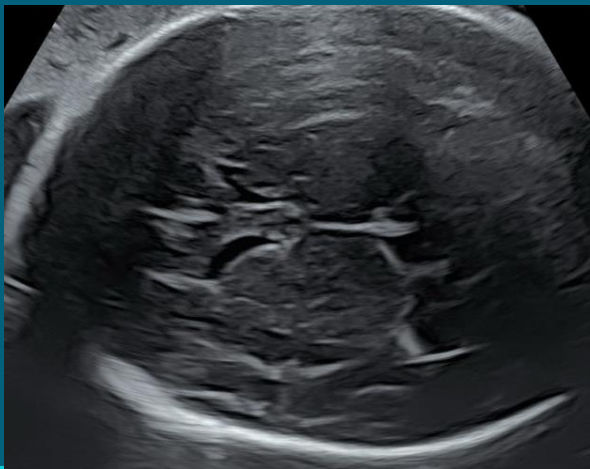
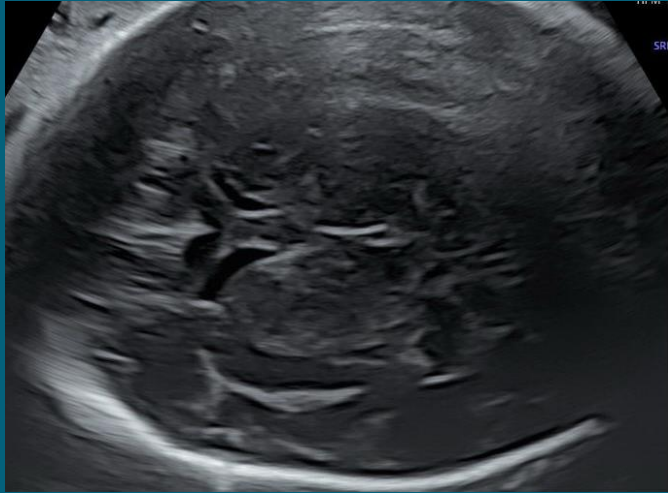
Agénésies du corps calleux



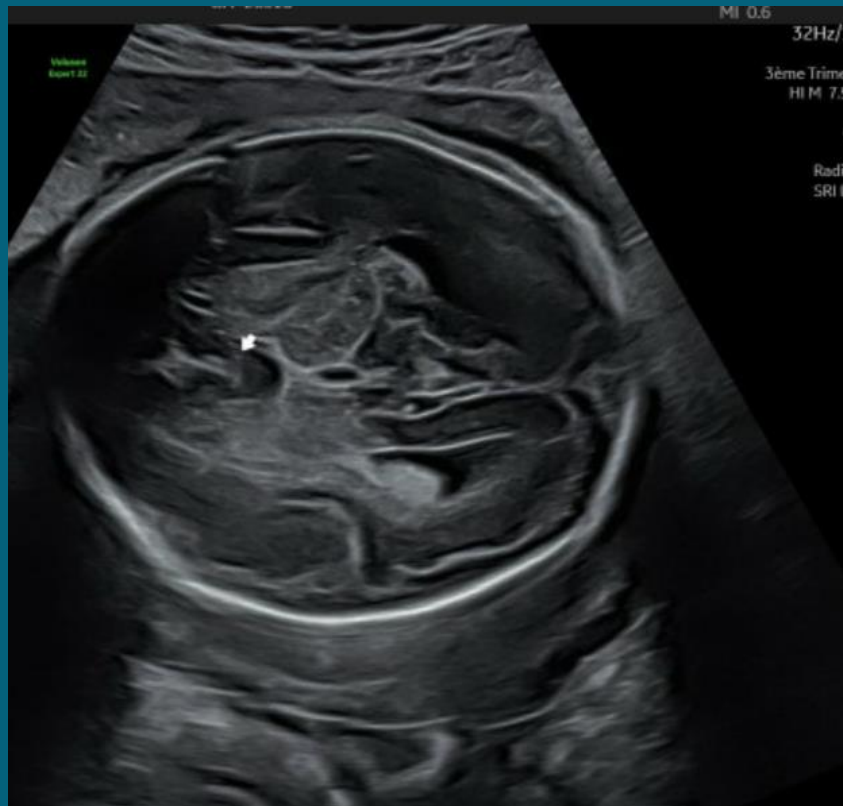
Agénésie partielle du corps calleux



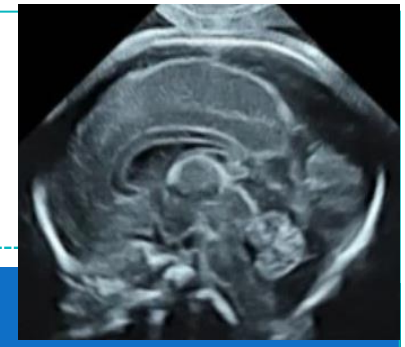
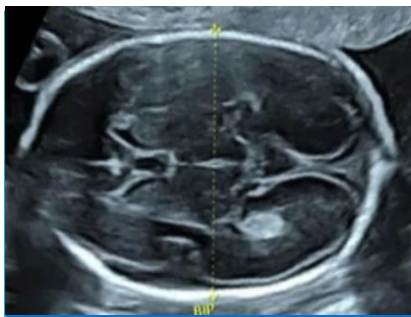
Agénésie partielle postérieure/dysgénésie du CC



Agénésie partielle postérieure/dysgénésie du CC



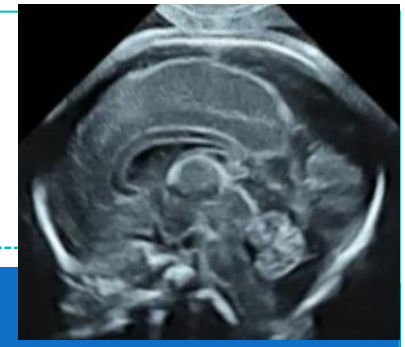
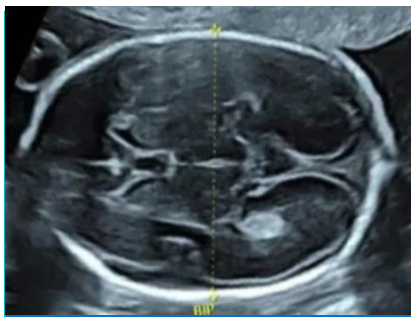
Agénésies du corps calleux



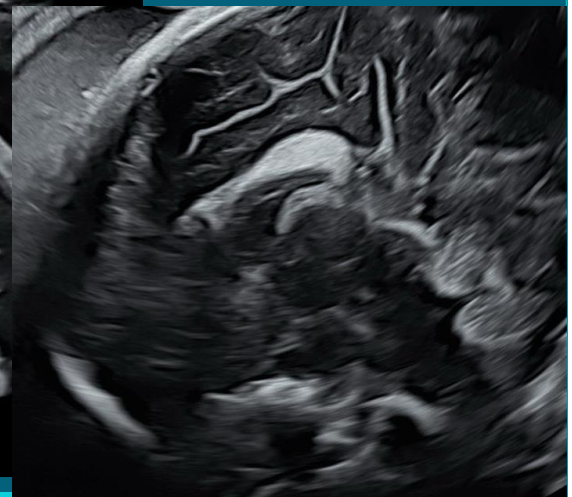
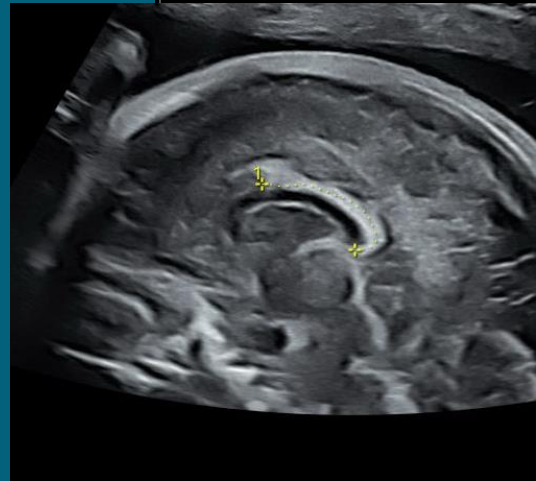
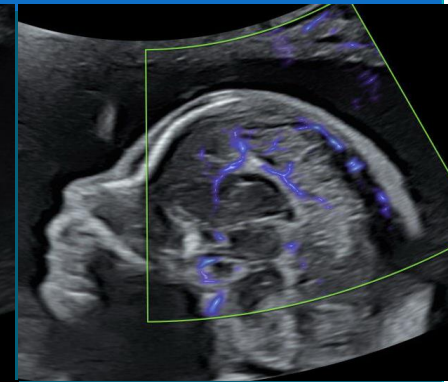
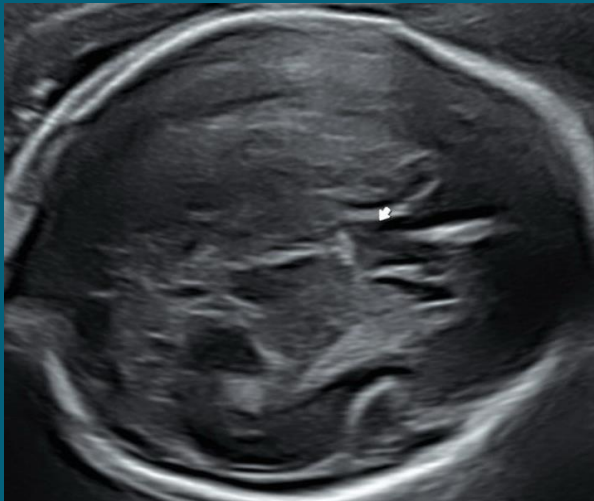
Agénésie partielle du corps calleux ischémohémorragique



Agénésies du corps calleux



Hypoplasie du corps calleux associée à un lipome



Autres anomalies du corps calleux



- Anomalies biométriques
 - Corps calleux court? Fin?
 - Ce n'est pas une entité de la classification postnatale des anomalies du CC
- Dysgénésies

Opinion

Fetal corpus callosal anomalies: from disease of classification to classification of disease

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Correspondence

Too short or too long: impact of corpus callosal measurement on prenatal counseling

Evaluation quantitative: références? CAT?



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Journal of Gynecology Obstetrics and Human Reproduction

journal homepage: www.elsevier.com/locate/jogoh

Original Article

New reference charts for fetal ultrasound corpus callosum length with emphasis on the third trimester

S. Friszer^{a,b,c,*}, JP. Bernard^{a,d}, T. Bultez^{a,e}, U. Metzger^a, R. Bessis^a, C. Lamourdedieu^{a,f}, B. Deloison^{a,g,h}

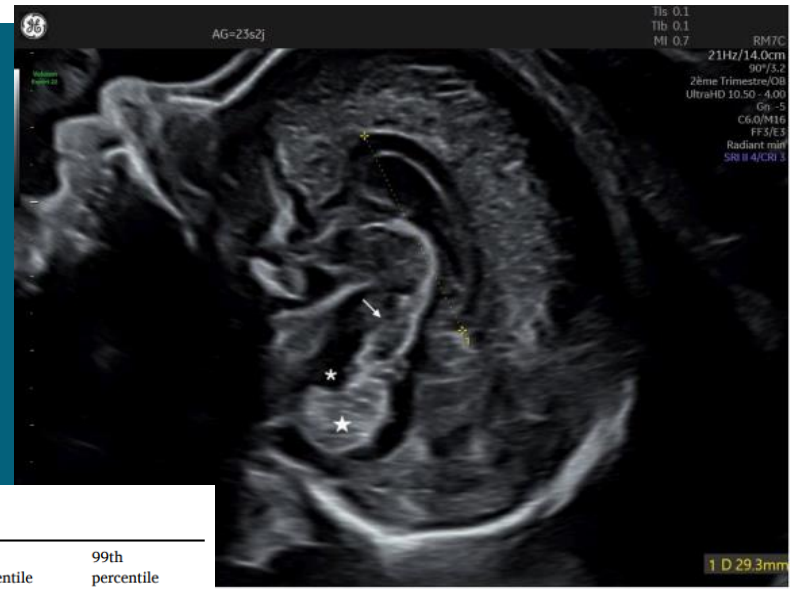
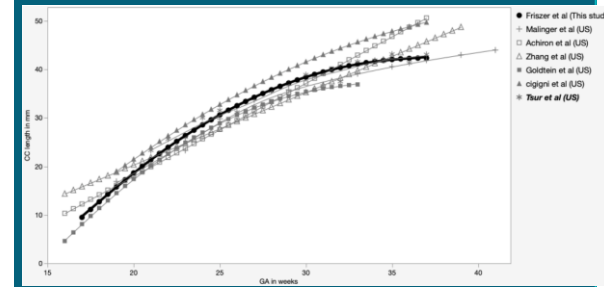


Table 3

Reference table for fetal corpus callosum length (mm) predicted by our cubic model.

| GA | 1st percentile | 5th percentile | 10th percentile | 25th percentile | 50th percentile | 75th percentile | 90th percentile | 95th percentile | 99th percentile |
|------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 17-17SA+6j | 7,60 | 8,35 | 8,75 | 9,41 | 10,15 | 10,89 | 11,56 | 11,96 | 12,71 |
| 18-18SA+6j | 10,99 | 11,78 | 12,20 | 12,90 | 13,68 | 14,46 | 15,16 | 15,58 | 16,36 |
| 19-19SA+6j | 14,11 | 14,94 | 15,38 | 16,11 | 16,93 | 17,75 | 18,48 | 18,92 | 19,75 |
| 20-20SA+6j | 16,97 | 17,84 | 18,30 | 19,07 | 19,92 | 20,78 | 21,55 | 22,01 | 22,87 |
| 21-21SA+6j | 19,59 | 20,49 | 20,98 | 21,78 | 22,67 | 23,57 | 24,37 | 24,85 | 25,75 |
| 22-22SA+6j | 21,98 | 22,92 | 23,42 | 24,26 | 25,19 | 26,12 | 26,96 | 27,46 | 28,40 |
| 23-23SA+6j | 24,14 | 25,12 | 25,64 | 26,51 | 27,48 | 28,45 | 29,33 | 29,85 | 30,83 |
| 24-24SA+6j | 26,10 | 27,11 | 27,66 | 28,56 | 29,57 | 30,58 | 31,49 | 32,03 | 33,05 |
| 25-25SA+6j | 27,86 | 28,92 | 29,48 | 30,42 | 31,47 | 32,51 | 33,45 | 34,02 | 35,08 |
| 26-26SA+6j | 29,44 | 30,53 | 31,12 | 32,09 | 33,18 | 34,26 | 35,24 | 35,82 | 36,92 |
| 27-27SA+6j | 30,85 | 31,98 | 32,59 | 33,60 | 34,72 | 35,85 | 36,86 | 37,46 | 38,59 |
| 28-28SA+6j | 32,10 | 33,28 | 33,90 | 34,95 | 36,11 | 37,27 | 38,32 | 38,94 | 40,11 |
| 29-29SA+6j | 33,22 | 34,43 | 35,07 | 36,15 | 37,35 | 38,55 | 39,63 | 40,28 | 41,49 |
| 30-30SA+6j | 34,20 | 35,45 | 36,12 | 37,23 | 38,47 | 39,70 | 40,82 | 41,48 | 42,73 |
| 31-31SA+6j | 35,06 | 36,35 | 37,04 | 38,19 | 39,46 | 40,74 | 41,89 | 42,57 | 43,86 |
| 32-32SA+6j | 35,82 | 37,15 | 37,86 | 39,04 | 40,35 | 41,67 | 42,85 | 43,56 | 44,88 |
| 33-33SA+6j | 36,49 | 37,85 | 38,58 | 39,80 | 41,15 | 42,50 | 43,72 | 44,45 | 45,81 |
| 34-34SA+6j | 37,07 | 38,48 | 39,23 | 40,48 | 41,87 | 43,26 | 44,51 | 45,26 | 46,67 |
| 35-35SA+6j | 37,59 | 39,04 | 39,81 | 41,09 | 42,52 | 43,95 | 45,24 | 46,01 | 47,45 |
| 36-36SA+6j | 38,06 | 39,54 | 40,33 | 41,65 | 43,12 | 44,59 | 45,91 | 46,70 | 48,18 |



Evaluation quantitative: références? CAT?

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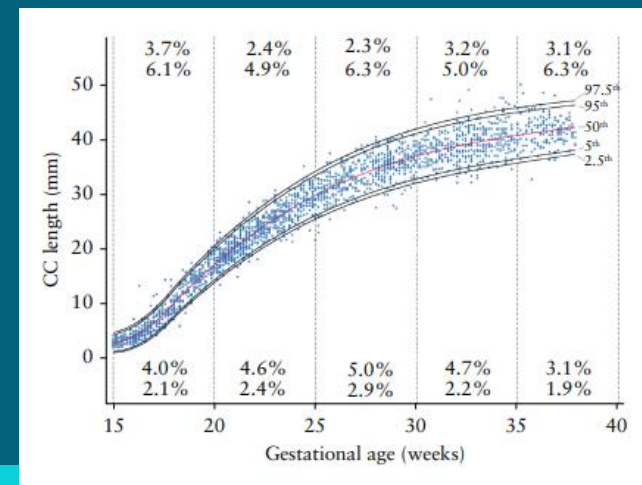
Transvaginal ultrasound assessment of corpus callosal length in the fetus: multicenter cross-sectional study

D. PALADINI¹, S. PARODI², H. XIE³, F. VIÑALS⁴, K. HARATZ⁵, R. BIRNBAUM⁵, G. AZUMENDI⁶, L. POMAR⁷, E. MONTAGUTI⁸, P. ACHARYA⁹, P. VOLPE¹⁰, M. PÉREZ-CRUZ¹¹, K. KARL¹², R. CHAOUÏ¹³, R. POOH¹⁴ and Collaborators[†]



Table 3 Centile reference values for fetal corpus callosal (CC) length, measured on native two-dimensional ultrasound images, according to gestational age (GA)

| GA (weeks) | CC length (mm) | | | | | | |
|------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| | 2.5 th centile | 5 th centile | 10 th centile | 50 th centile | 90 th centile | 95 th centile | 97.5 th centile |
| 15 | 1.375 | 1.689 | 2.051 | 3.329 | 4.606 | 4.969 | 5.283 |
| 16 | 2.742 | 3.110 | 3.533 | 5.028 | 6.522 | 6.946 | 7.313 |
| 17 | 5.479 | 5.897 | 6.380 | 8.081 | 9.782 | 10.264 | 10.683 |
| 18 | 8.939 | 9.403 | 9.939 | 11.827 | 13.715 | 14.250 | 14.715 |
| 19 | 12.251 | 12.760 | 13.346 | 15.414 | 17.482 | 18.068 | 18.577 |
| 20 | 15.255 | 15.805 | 16.439 | 18.674 | 20.910 | 21.543 | 22.093 |
| 21 | 17.788 | 18.373 | 19.047 | 21.427 | 23.807 | 24.481 | 25.066 |
| 22 | 20.268 | 20.888 | 21.604 | 24.128 | 26.652 | 27.367 | 27.988 |
| 23 | 22.391 | 23.043 | 23.794 | 26.443 | 29.093 | 29.844 | 30.495 |
| 24 | 24.510 | 25.193 | 25.980 | 28.756 | 31.533 | 32.320 | 33.003 |
| 25 | 26.251 | 26.960 | 27.776 | 30.658 | 33.540 | 34.357 | 35.065 |
| 26 | 27.807 | 28.539 | 29.382 | 32.357 | 35.333 | 36.176 | 36.908 |
| 27 | 29.189 | 29.941 | 30.808 | 33.865 | 36.922 | 37.789 | 38.541 |
| 28 | 30.446 | 31.215 | 32.102 | 35.232 | 38.361 | 39.248 | 40.017 |
| 29 | 31.531 | 32.315 | 33.218 | 36.405 | 39.593 | 40.496 | 41.280 |
| 30 | 32.418 | 33.212 | 34.128 | 37.358 | 40.588 | 41.504 | 42.298 |
| 31 | 33.256 | 34.059 | 34.984 | 38.249 | 41.514 | 42.439 | 43.242 |
| 32 | 34.040 | 34.849 | 35.781 | 39.070 | 42.358 | 43.291 | 44.099 |
| 33 | 34.709 | 35.521 | 36.456 | 39.756 | 43.056 | 43.992 | 44.803 |
| 34 | 35.353 | 36.164 | 37.100 | 40.399 | 43.699 | 44.635 | 45.446 |
| 35 | 35.977 | 36.785 | 37.717 | 41.004 | 44.290 | 45.222 | 46.030 |
| 36 | 36.554 | 37.356 | 38.281 | 41.542 | 44.803 | 45.728 | 46.530 |
| 37 | 37.080 | 37.873 | 38.788 | 42.015 | 45.242 | 46.157 | 46.950 |



Evaluation quantitative: références? CAT?



Table 3
Reference table for fetal corpus callosum length (mm) predicted by our cubic model.

| GA | 1st percentile | 5th percentile | 10th percentile | 25th percentile | 50th percentile | 75th percentile | 90th percentile | 95th percentile | 99th percentile |
|------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 17-17SA+6j | 7,60 | 8,35 | 8,75 | 9,41 | 10,15 | 10,89 | 11,56 | 11,96 | 12,71 |
| 18-18SA+6j | 10,99 | 11,78 | 12,20 | 12,90 | 13,68 | 14,46 | 15,16 | 15,58 | 16,36 |
| 19-19SA+6j | 14,11 | 14,94 | 15,38 | 16,11 | 16,93 | 17,75 | 18,48 | 18,92 | 19,75 |
| 20-20SA+6j | 16,97 | 17,84 | 18,30 | 19,07 | 19,92 | 20,78 | 21,55 | 22,01 | 22,87 |
| 21-21SA+6j | 19,59 | 20,49 | 20,98 | 21,78 | 22,67 | 23,57 | 24,37 | 24,85 | 25,75 |
| 22-22SA+6j | 21,98 | 22,92 | 23,42 | 24,26 | 25,19 | 26,12 | 26,96 | 27,46 | 28,40 |
| 23-23SA+6j | 24,14 | 25,12 | 25,64 | 26,51 | 27,48 | 28,45 | 29,33 | 29,85 | 30,83 |
| 24-24SA+6j | 26,10 | 27,11 | 27,66 | 28,56 | 29,57 | 30,58 | 31,49 | 32,03 | 33,05 |
| 25-25SA+6j | 27,86 | 28,92 | 29,48 | 30,42 | 31,47 | 32,51 | 33,45 | 34,02 | 35,08 |
| 26-26SA+6j | 29,44 | 30,53 | 31,12 | 32,09 | 33,18 | 34,26 | 35,24 | 35,82 | 36,92 |
| 27-27SA+6j | 30,85 | 31,98 | 32,59 | 33,60 | 34,72 | 35,85 | 36,86 | 37,46 | 38,59 |
| 28-28SA+6j | 32,10 | 33,28 | 33,90 | 34,95 | 36,11 | 37,27 | 38,32 | 38,94 | 40,11 |
| 29-29SA+6j | 33,22 | 34,43 | 35,07 | 36,15 | 37,35 | 38,55 | 39,63 | 40,28 | 41,49 |
| 30-30SA+6j | 34,20 | 35,45 | 36,12 | 37,23 | 38,47 | 39,70 | 40,82 | 41,48 | 42,73 |
| 31-31SA+6j | 35,06 | 36,35 | 37,04 | 38,19 | 39,46 | 40,74 | 41,89 | 42,57 | 43,86 |
| 32-32SA+6j | 35,82 | 37,15 | 37,86 | 39,04 | 40,35 | 41,67 | 42,85 | 43,56 | 44,88 |
| 33-33SA+6j | 36,49 | 37,85 | 38,58 | 39,80 | 41,15 | 42,50 | 43,72 | 44,45 | 45,81 |
| 34-34SA+6j | 37,07 | 38,48 | 39,23 | 40,48 | 41,87 | 43,26 | 44,51 | 45,26 | 46,67 |
| 35-35SA+6j | 37,59 | 39,04 | 39,81 | 41,09 | 42,52 | 43,95 | 45,24 | 46,01 | 47,45 |
| 36-36SA+6j | 38,06 | 39,54 | 40,33 | 41,65 | 43,12 | 44,59 | 45,91 | 46,70 | 48,18 |

measured on native two-dimensional ultrasound images, according to

CC length (mm)

| GA (weeks) | 2.5 th centile | 5 th centile | 10 th centile | 50 th centile | 90 th centile | 95 th centile | 97.5 th centile |
|------------|---------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|
| 15 | 1.375 | 1.689 | 2.051 | 3.329 | 4.606 | 4.969 | 5.283 |
| 16 | 2.742 | 3.110 | 3.533 | 5.028 | 6.522 | 6.946 | 7.313 |
| 17 | 5.479 | 5.897 | 6.380 | 8.081 | 9.782 | 10.264 | 10.683 |
| 18 | 8.939 | 9.403 | 9.939 | 11.827 | 13.715 | 14.250 | 14.715 |
| 19 | 12.251 | 12.760 | 13.346 | 15.414 | 17.482 | 18.068 | 18.577 |
| 20 | 15.255 | 15.805 | 16.439 | 18.674 | 20.910 | 21.543 | 22.093 |
| 21 | 17.788 | 18.373 | 19.047 | 21.427 | 23.807 | 24.481 | 25.066 |
| 22 | 20.268 | 20.888 | 21.604 | 24.128 | 26.652 | 27.367 | 27.988 |
| 23 | 22.391 | 23.043 | 23.794 | 26.443 | 29.093 | 29.844 | 30.495 |
| 24 | 24.310 | 25.100 | 25.900 | 28.750 | 31.553 | 32.320 | 33.063 |
| 25 | 26.251 | 26.960 | 27.776 | 30.658 | 33.540 | 34.357 | 35.065 |
| 26 | 27.807 | 28.539 | 29.382 | 32.357 | 35.333 | 36.176 | 36.908 |
| 27 | 29.189 | 29.941 | 30.808 | 33.865 | 36.922 | 37.789 | 38.541 |
| 28 | 30.446 | 31.215 | 32.102 | 35.232 | 38.361 | 39.248 | 40.017 |
| 29 | 31.531 | 32.315 | 33.218 | 36.405 | 39.593 | 40.496 | 41.280 |
| 30 | 32.418 | 33.212 | 34.128 | 37.358 | 40.588 | 41.504 | 42.298 |
| 31 | 33.256 | 34.059 | 34.984 | 38.249 | 41.514 | 42.439 | 43.242 |
| 32 | 34.040 | 34.849 | 35.781 | 39.070 | 42.358 | 43.291 | 44.099 |
| 33 | 34.709 | 35.521 | 36.456 | 39.756 | 43.056 | 43.992 | 44.803 |
| 34 | 35.353 | 36.164 | 37.100 | 40.399 | 43.699 | 44.635 | 45.446 |
| 35 | 35.977 | 36.785 | 37.717 | 41.004 | 44.290 | 45.222 | 46.030 |
| 36 | 36.554 | 37.356 | 38.281 | 41.542 | 44.803 | 45.728 | 46.530 |
| 37 | 37.080 | 37.873 | 38.788 | 42.015 | 45.242 | 46.157 | 46.950 |

Est-ce la taille qui importe?



Ultrasound Obstet Gynecol 2024; 64: 151–154

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Opinion

- Reproductibilité des mesures, précision des mesures
- Ce n'est pas la taille qui compte, mais la présence des différentes structures et leur développement
- Encore plus d'incertitudes avec l'épaisseur

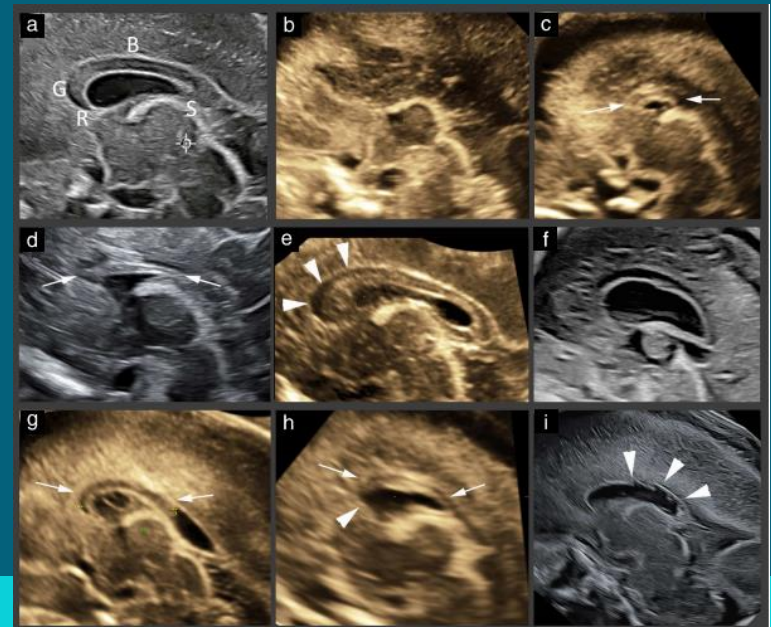
Fetal corpus callosal anomalies: from disease of classification to classification of disease

L. J. SALOMON¹ and D. PALADINI^{2,3*}

¹Médecine, Chirurgie et Imagerie Foetales, Maternité Hôpital Necker-Enfants Malades, Assistance Publique-Hôpitaux de Paris (AP-HP) URP 7328 FETUS Université Paris Cité, Paris, France;

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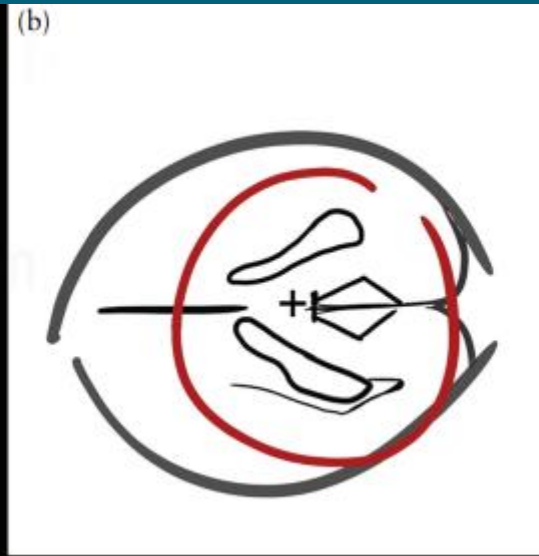
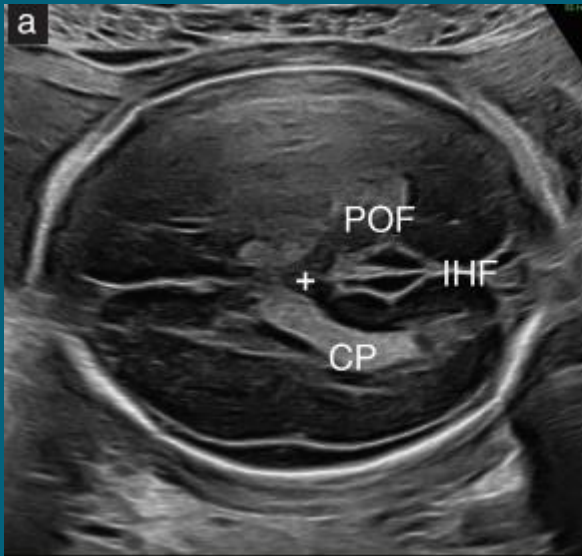
*Correspondence. (e-mail: dpaladini49@gmail.com)



Nouvelles notions



- Le complexe postérieur?



F. Viñals^{1,2*} and F. Correa³

¹Ultrasound Department, Sanatorio Aleman Clinic, Concepción, Chile;

²Obstetrics Department, Medicine Faculty, University of Concepción, Concepción, Chile;

³Fetal and Neonatal Ultrasonography Department, Hospital Lusiadas, Lisbon, Portugal

*Correspondence.

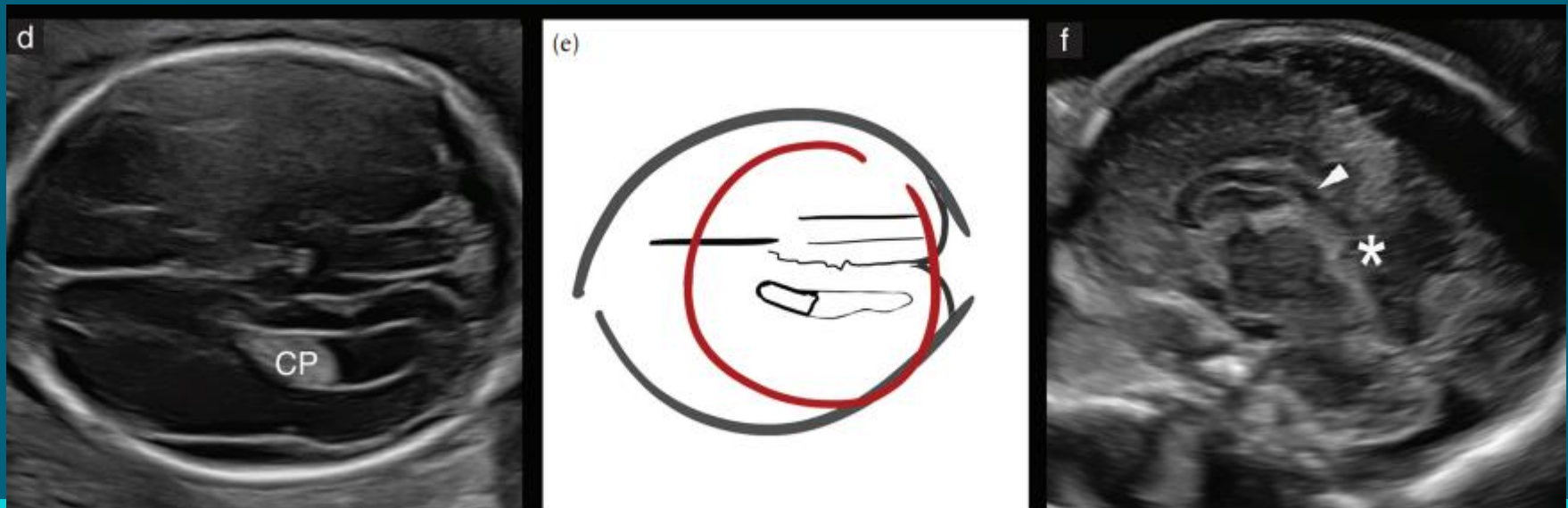
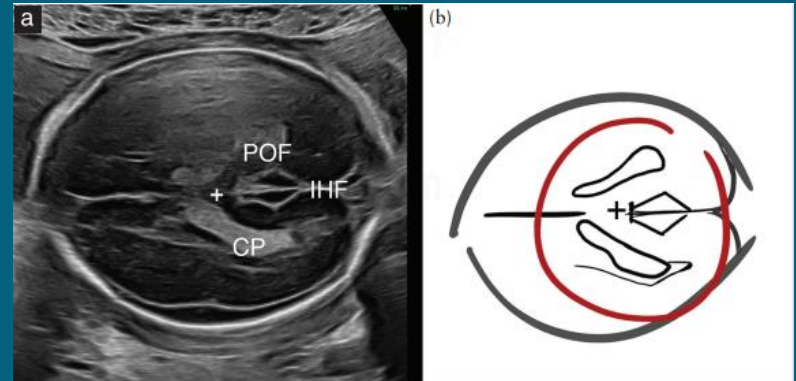
(e-mail: fvinals@gmail.com)

DOI: 10.1002/uog.29136

Nouvelles notions



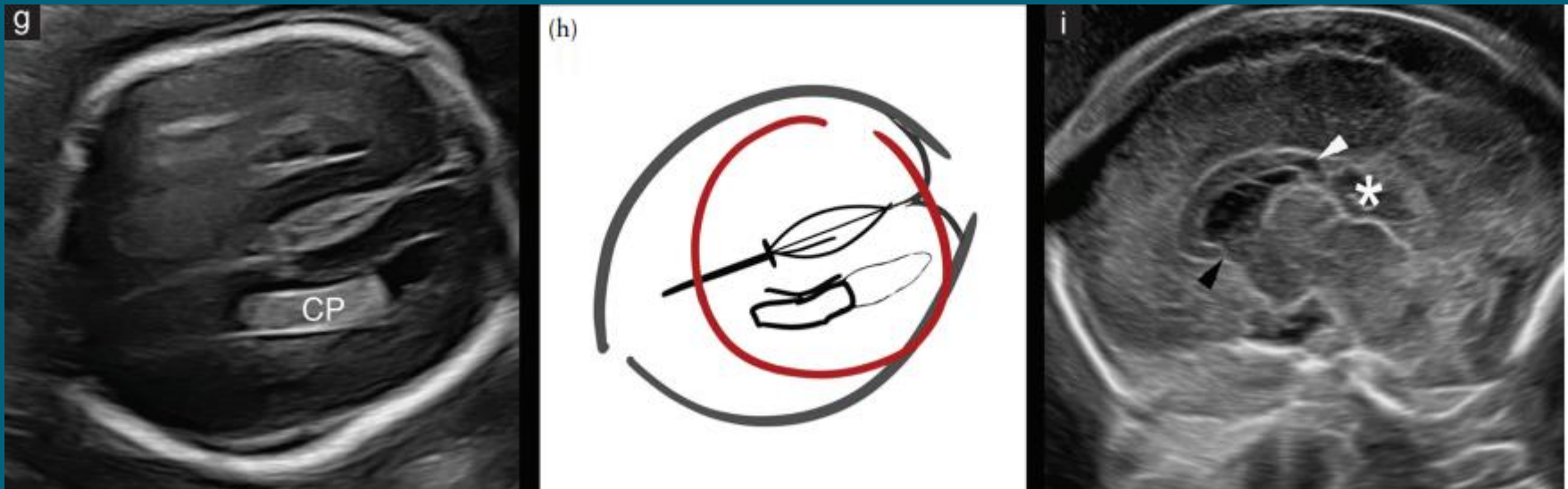
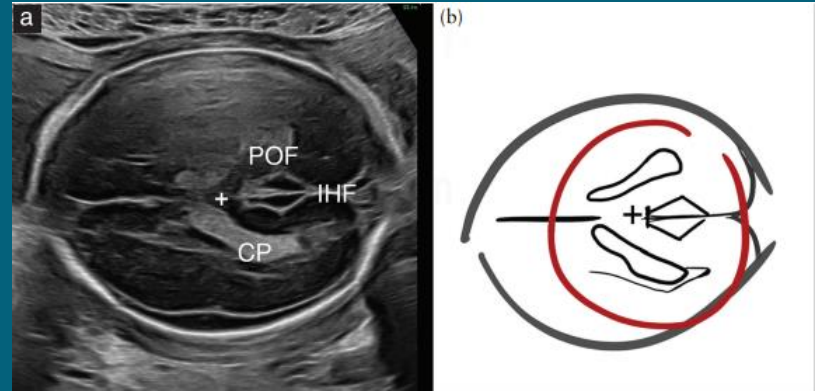
- Le complexe postérieur?
 - Agénésie partielle et dysgénésie



Nouvelles notions



- Le complexe postérieur?
 - Agénésie partielle



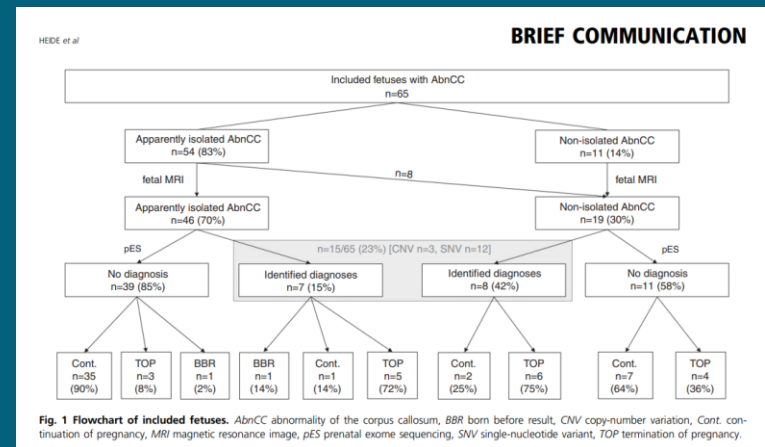
Bilan à faire?



- Imagerie complémentaire
 - ACC isolée vs associée
- Bilan génétique
- Bilan parental

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BRIEF COMMUNICATION
Genetics
inMedicine

Prenatal exome sequencing in 65 fetuses with abnormality of the corpus callosum: contribution to further diagnostic delineation



- Affiner le pronostic
 - Variants hétérozygotes dans le gène *DCC*
 - Certains variants dans *ARX* (formes très atténuées liées à l’X)
 - Variants *ZBTB20* ou *EMX2* de signification incertaine (VUS)/ ségrégation familiale

Agénésie septale

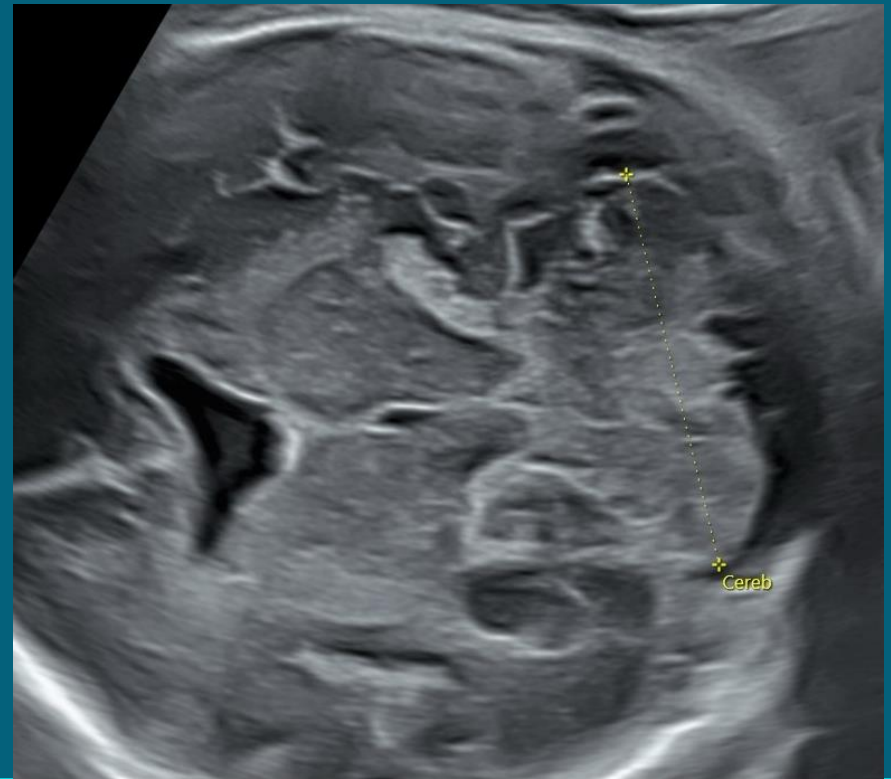
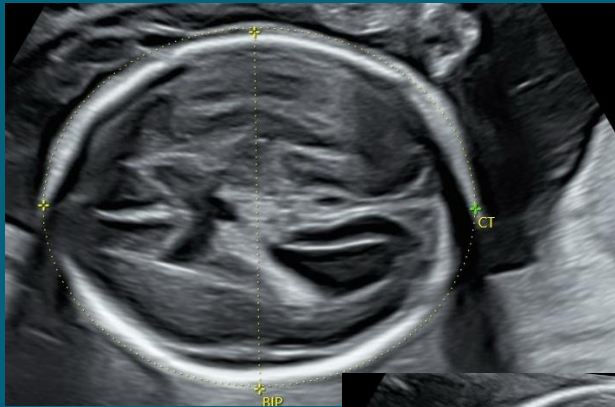
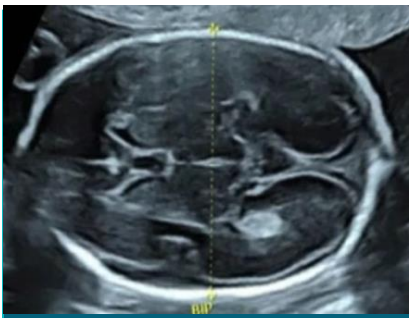


- Isolée ou associée
- Dysplasie septo-optique: IRM ++
- À différencier d'une petite cavité septale au T3
- Pièges

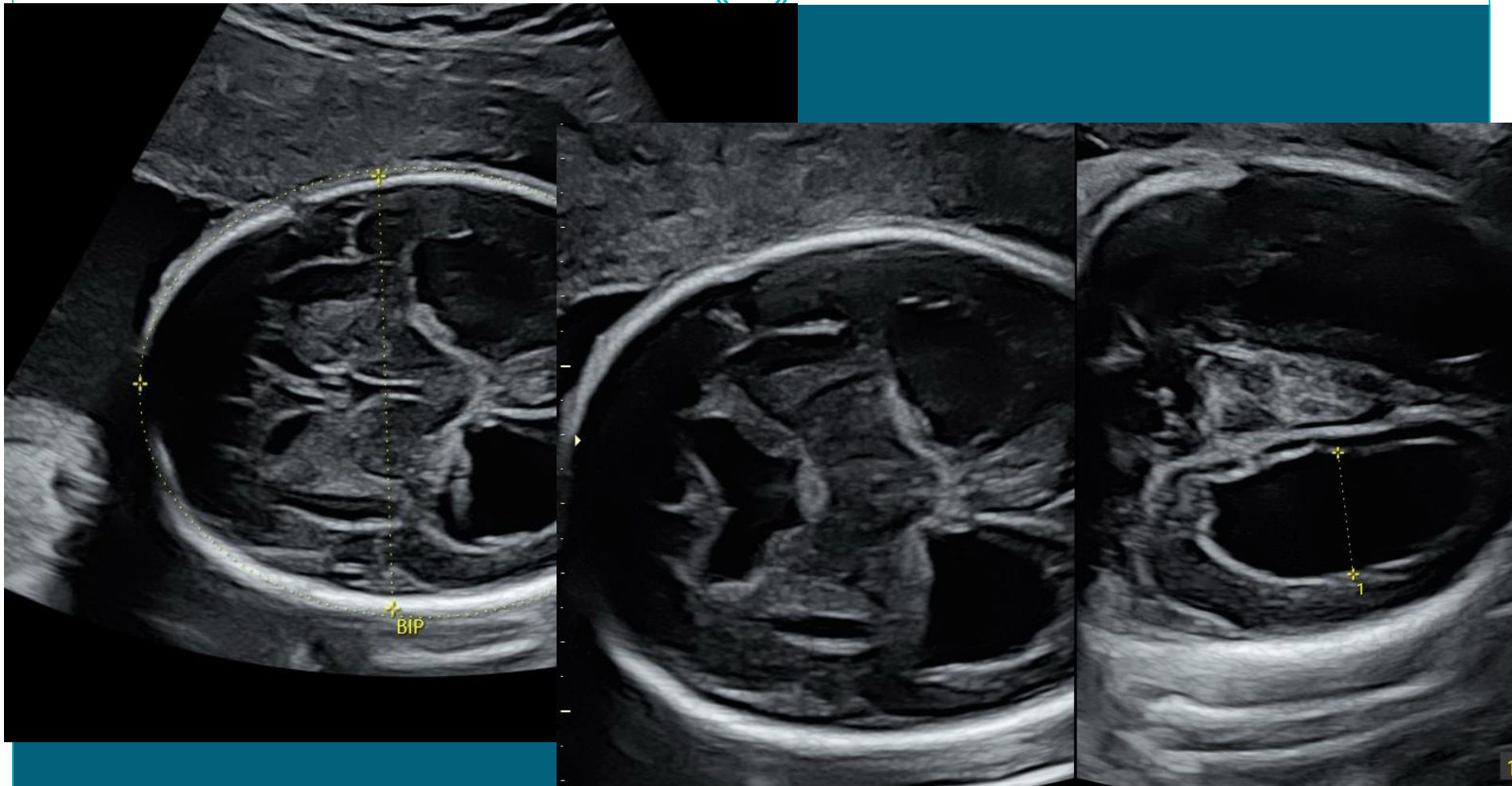
Agénésie septale



- Isolée
- Dysplasie septo-optique

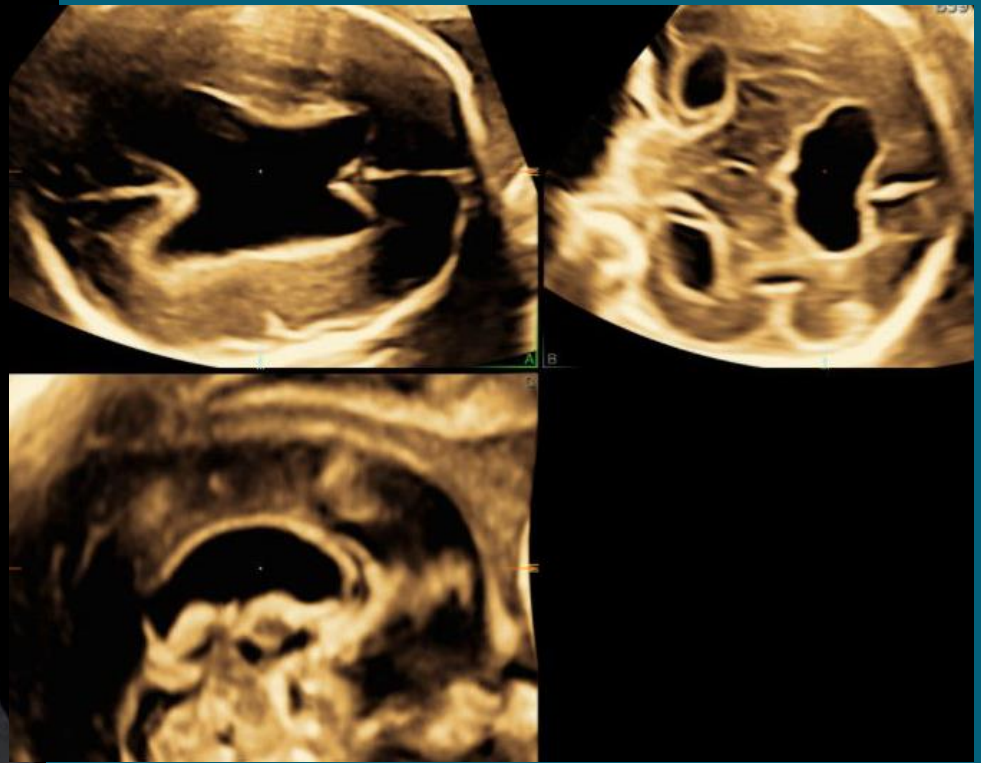


Hydrocéphalie avec rupture du septum





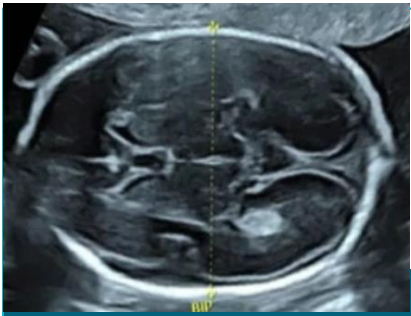
Voluson
E8



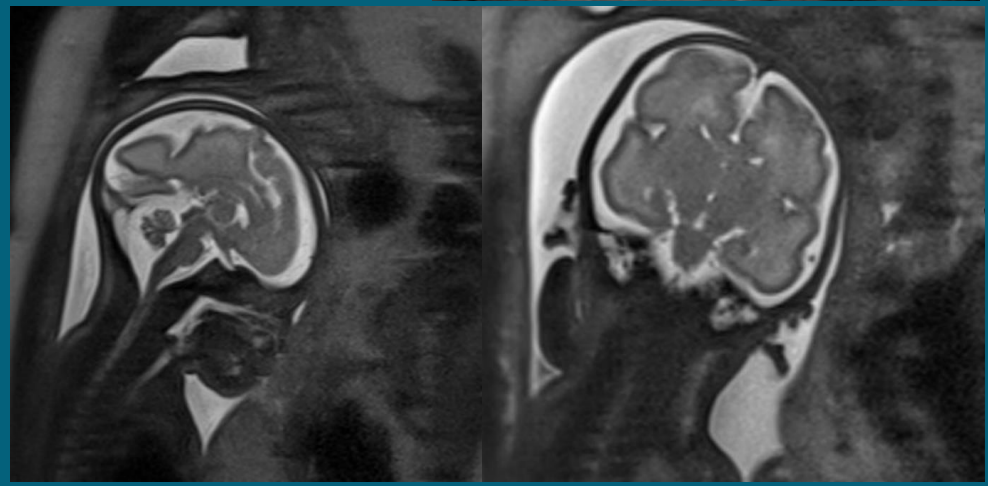
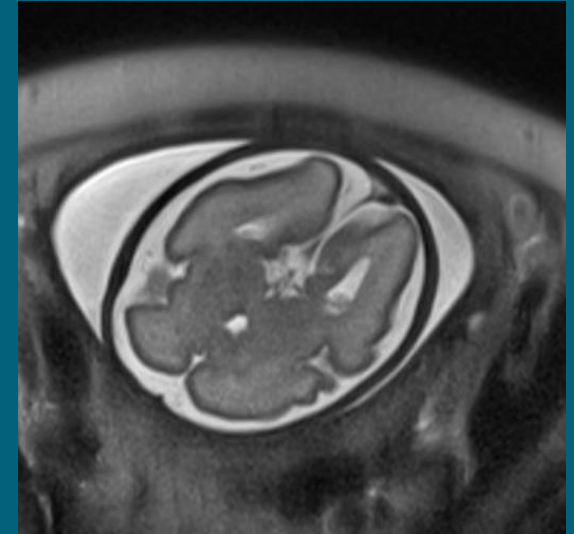
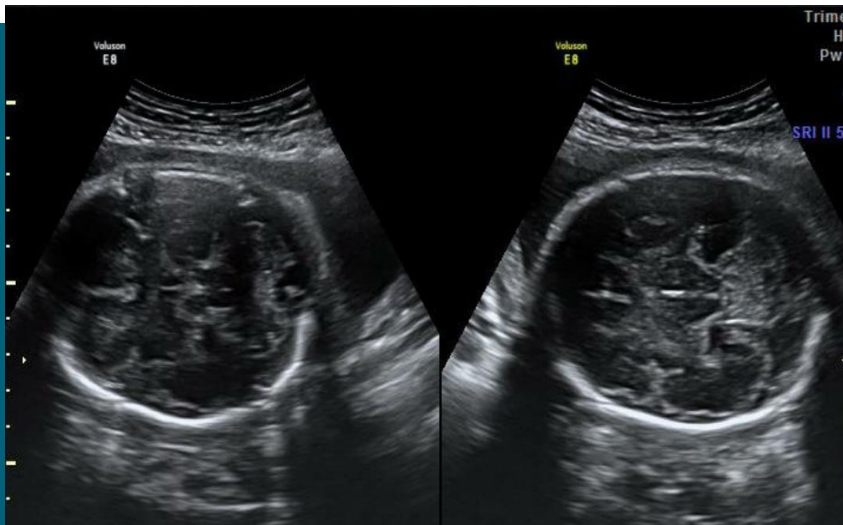
Holoprosencéphalies



- Alobaire
- Semi-lobaire
- Lobaire:
 - fusion bcp + subtile
 - Antérieure très limitée
 - Dc difficile voir impossible in utero



Holoprosencéphalie lobaire

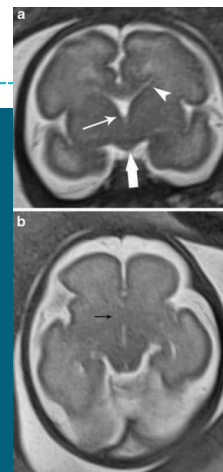
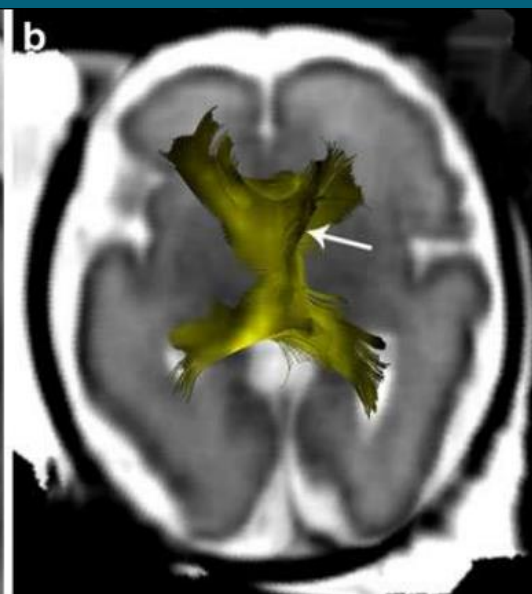


Thick corpus callosum: a clue to the diagnosis of fetal septopreoptic holoprosencephaly?

Mérim Koob · Anne-sophie Weingertner ·
Bernard Gasser · Estanislao Oubel ·
Jean-Louis Dietemann



Mérim Koob 2012

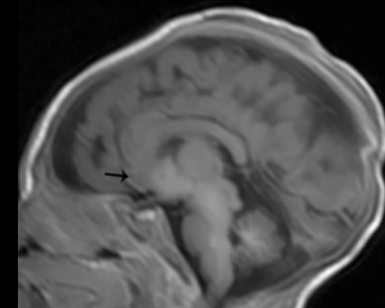


Post mortem MRI 3T à 34 sa

- Cornes frontales rudimentaires
- Pas de septum
- Fusion parenchymateuse de la base du lobe frontal

Mérim Koob 2012

- Anomalie du genou CC
- Fusion de la région sous callosale et hypothalamus

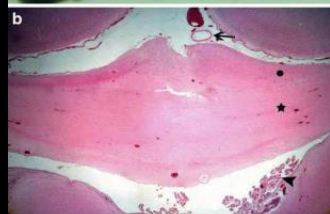


Mérim Koob 2012

Thick corpus callosum: a clue to the diagnosis of fetal septopreoptic holoprosencephaly?

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Bernard Gasser · Estanislao Oubel ·
Jean-Louis Dietemann

Anatomo-pathologie



Septo-préoptique holoprosencéphalie = forme lobaire (moyenne sévérité)

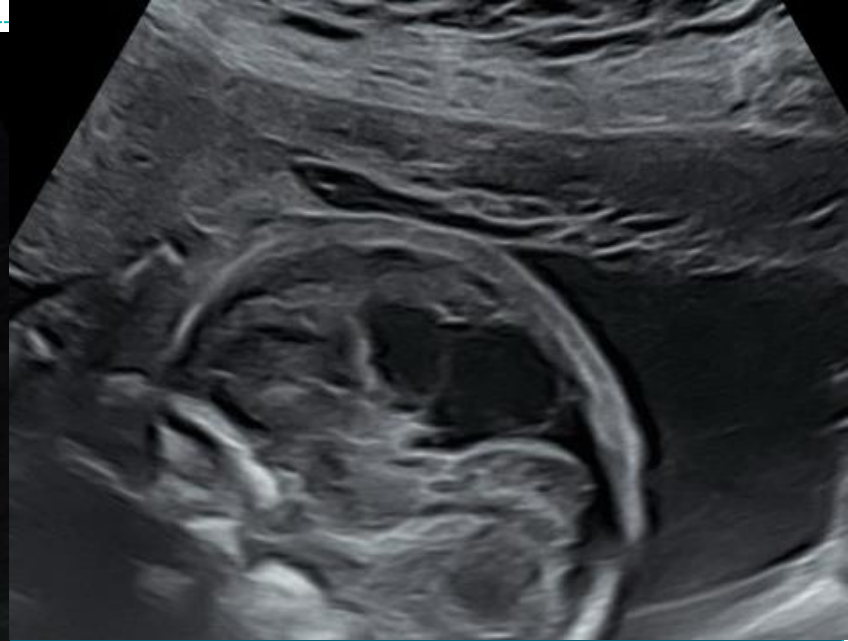
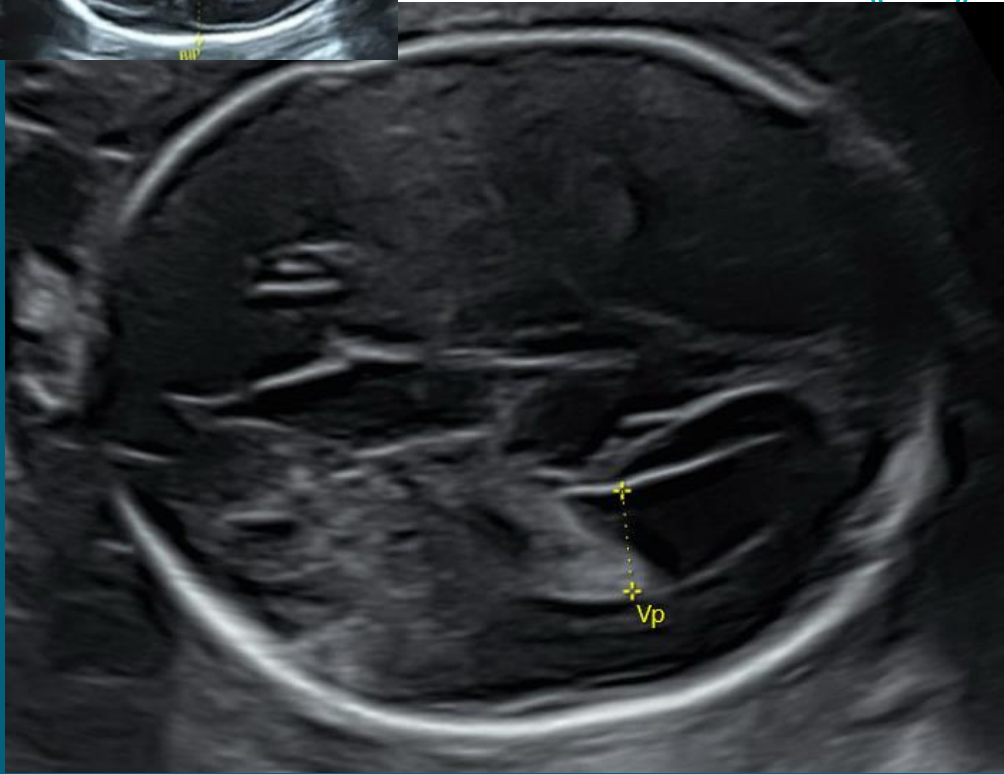
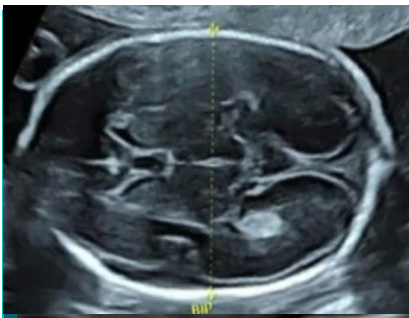
- Corps calleux « épais » +++
- Absence de septum et de kyste du septum
- Agénésie bulbes olfactifs
- CF rudimentaires, fusionnées
- Fusion fronto-basale et pré-septale
- Absence de clivage de l'hypothalamus sur IRM 3T post-mortem
- Intérêt de la tractographie

Images kystiques de la ligne médiane



- Kystes arachnoïdiens
- Kyste du septum interpositum
- Anévrisme de la veine de Galien

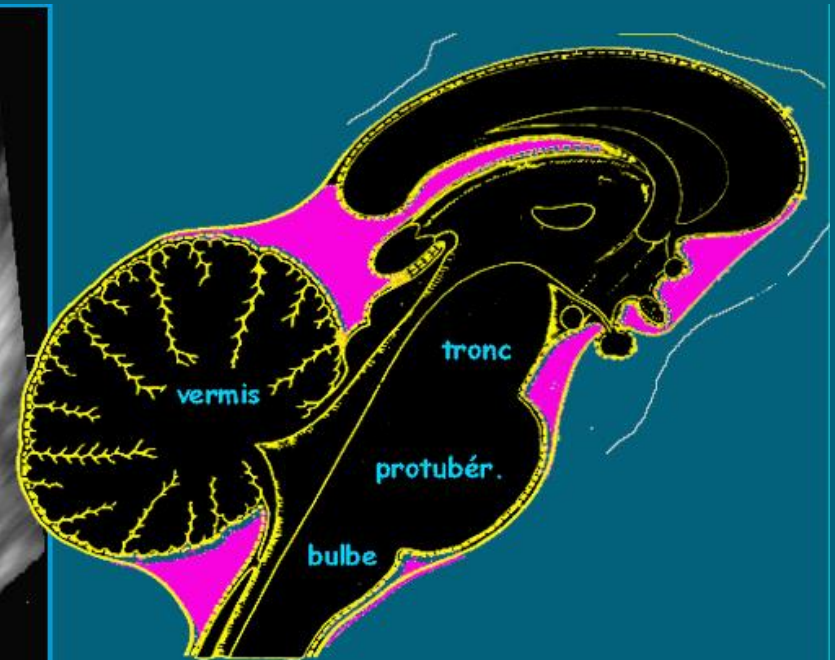
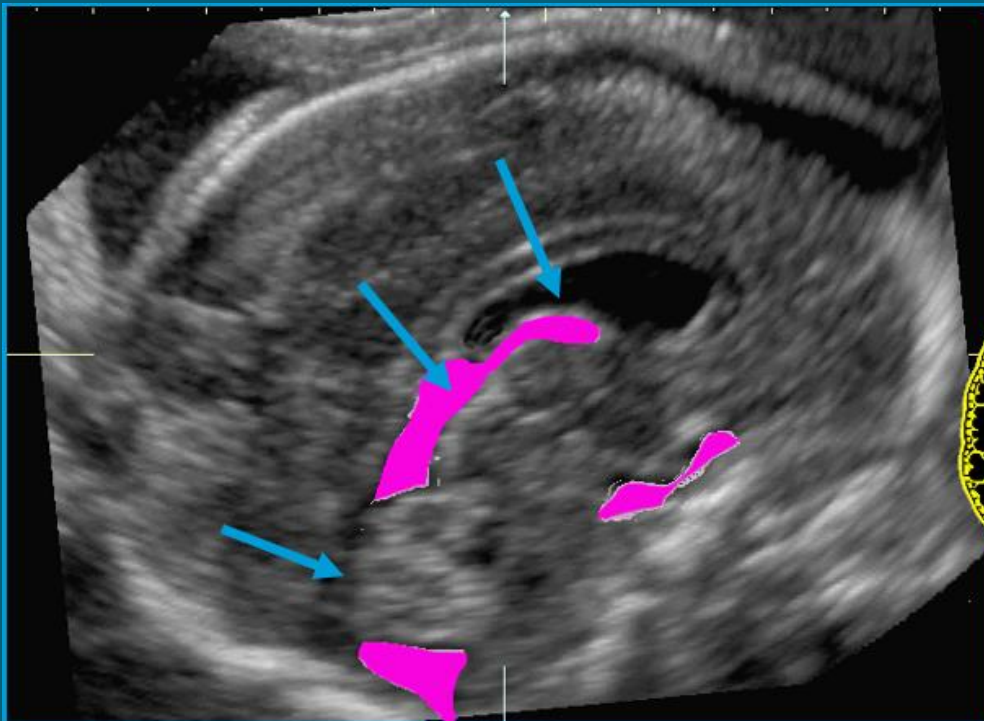
Kyste arachnoidien



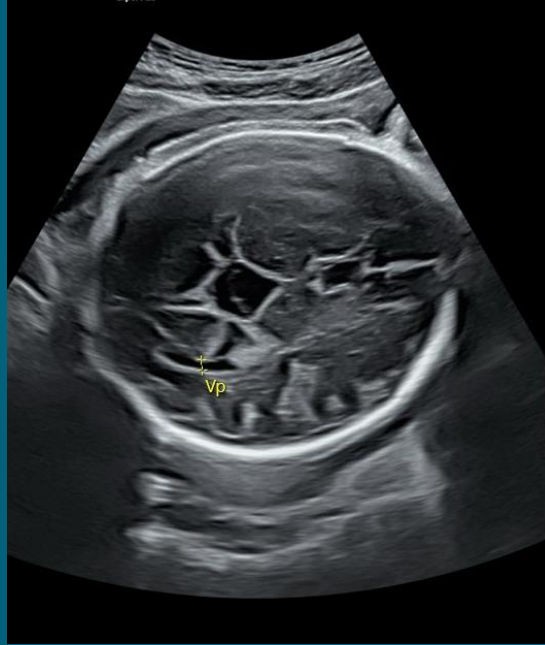
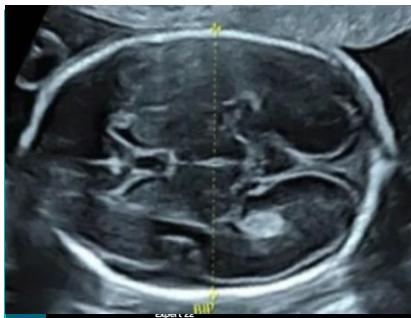
Kyste arachnoïdien



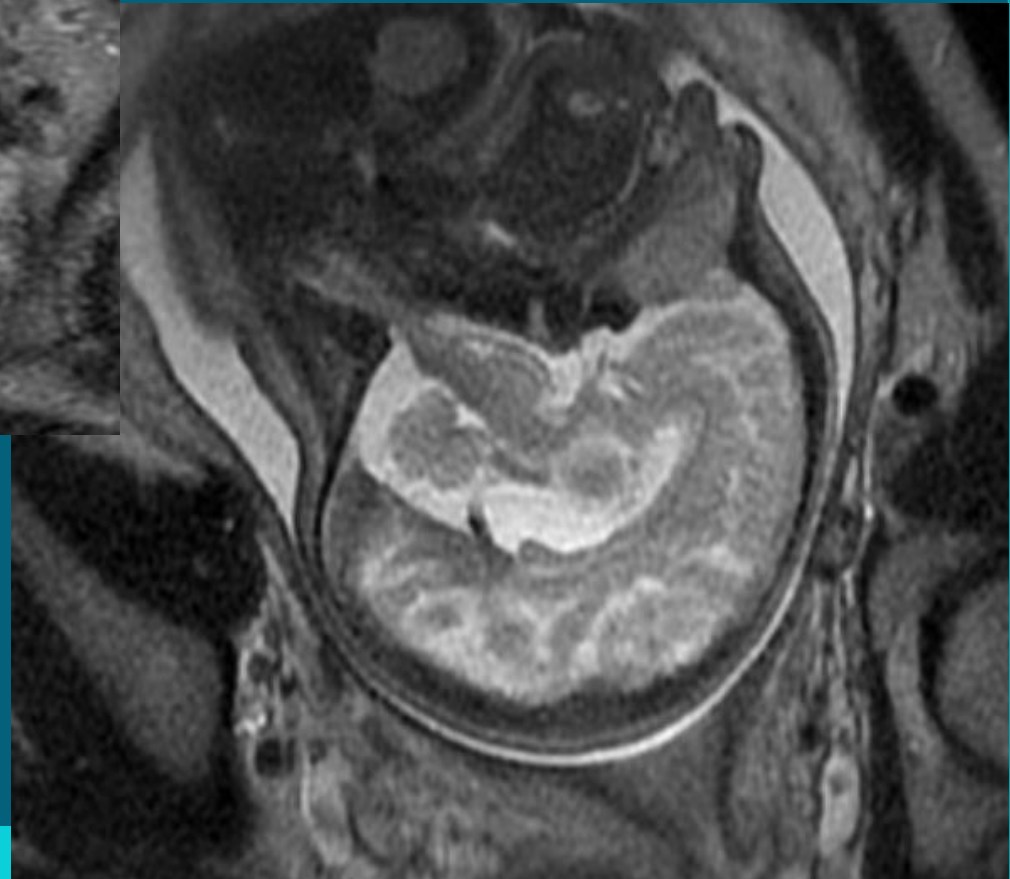
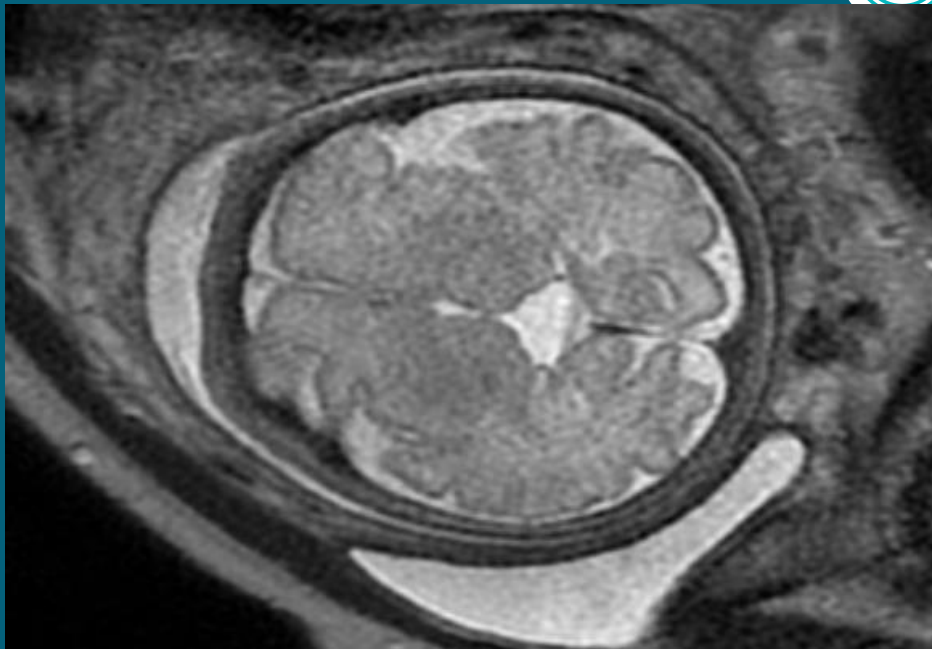
- Fine membrane cheminant au dessus des circonvolutions, à la face profonde de la dure-mère.
- Peut être lieu d'hémorragies et de kystes



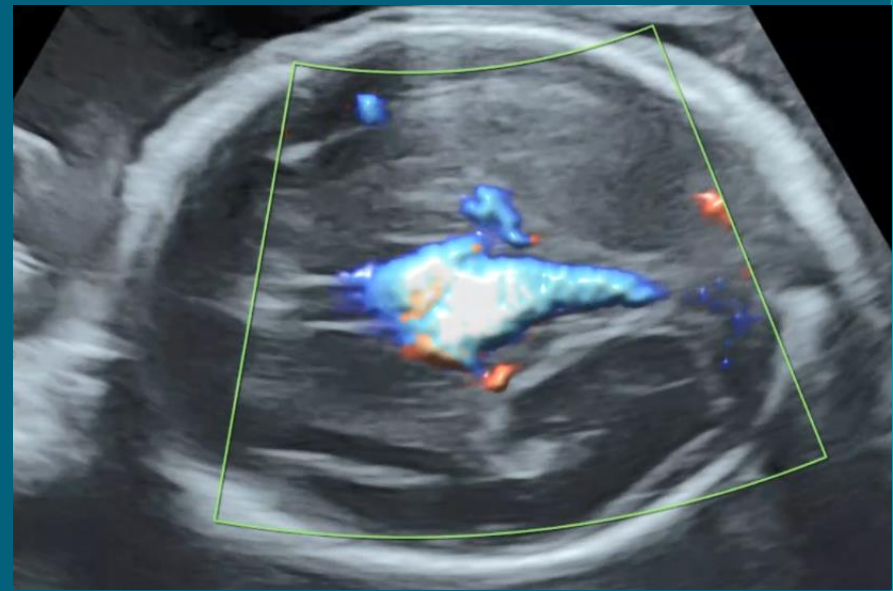
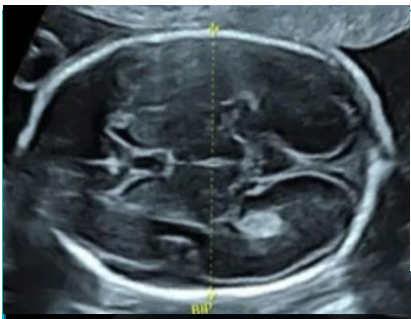
Kyste velum interpositum



Kyste velum interpositum



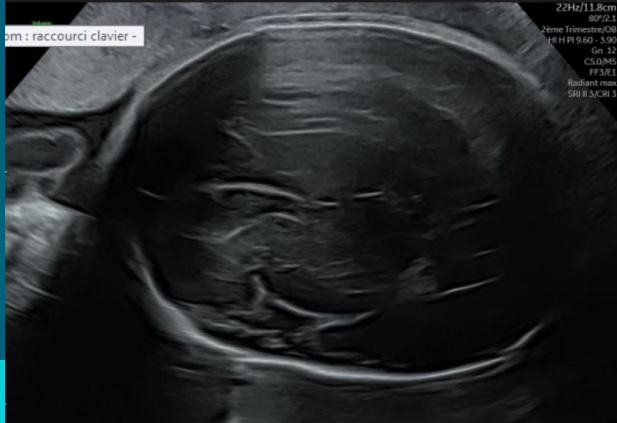
Anévrisme



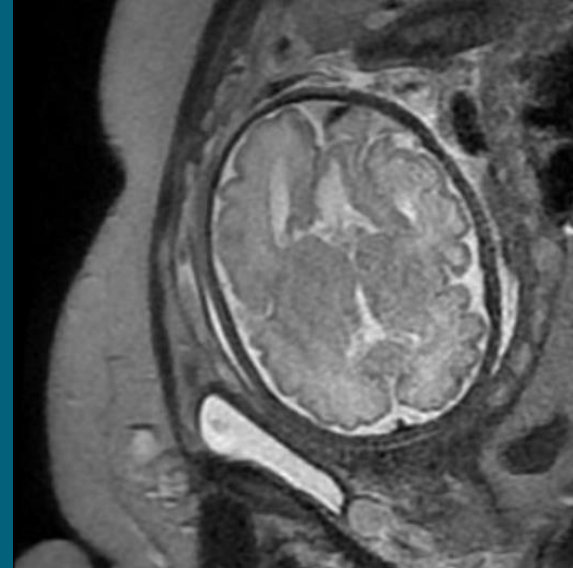
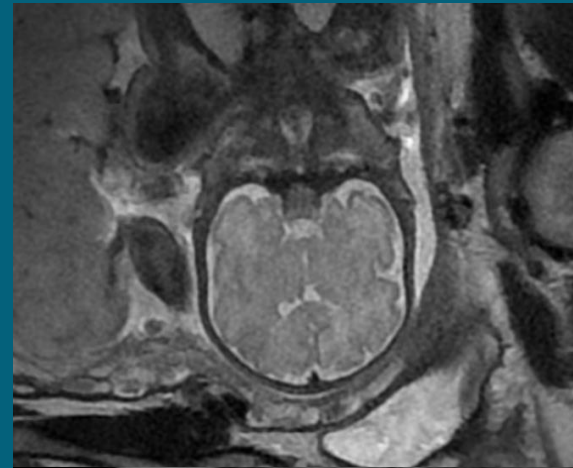
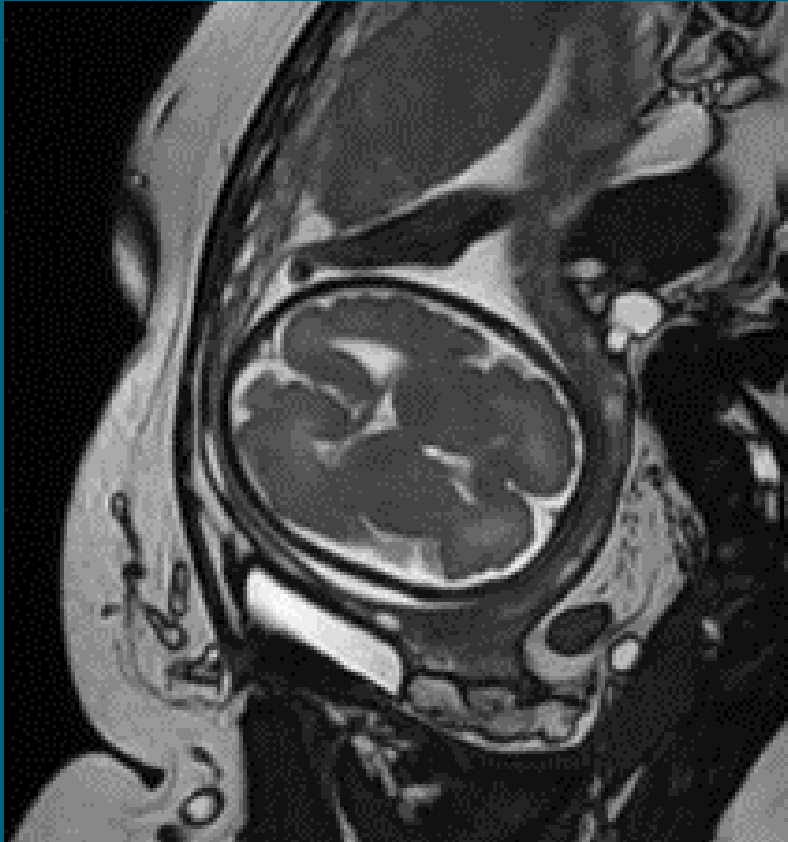
Autres



- Distorsion de la scissure inter-hémisphérique
 - Si isolée développement normal



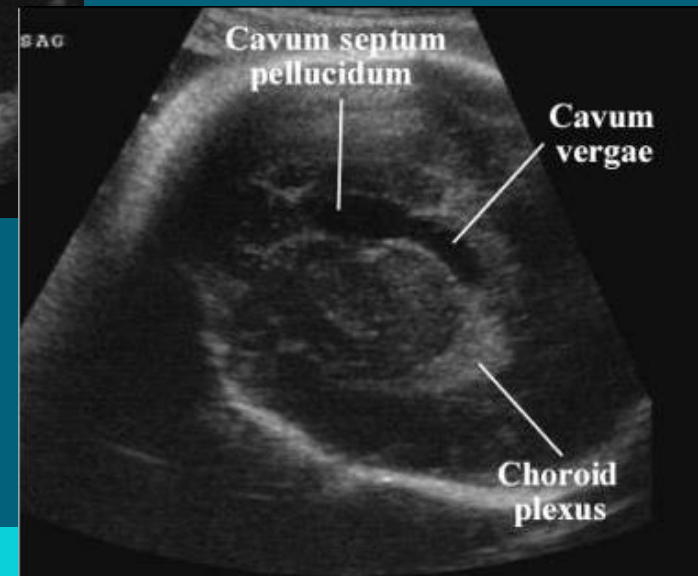
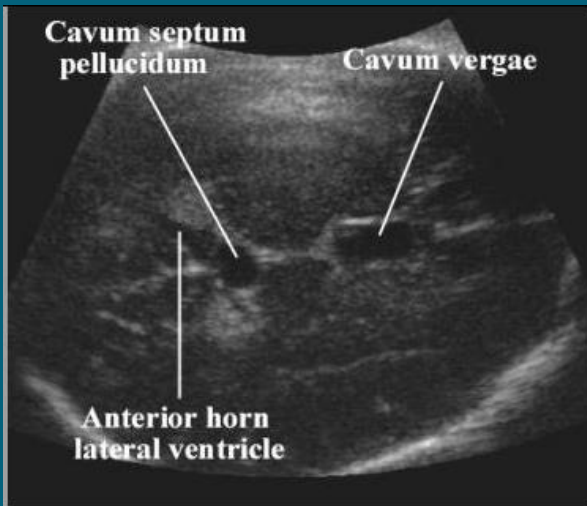
Autres: distorsion ligne médiane



Cavum vergae: variante de la norme



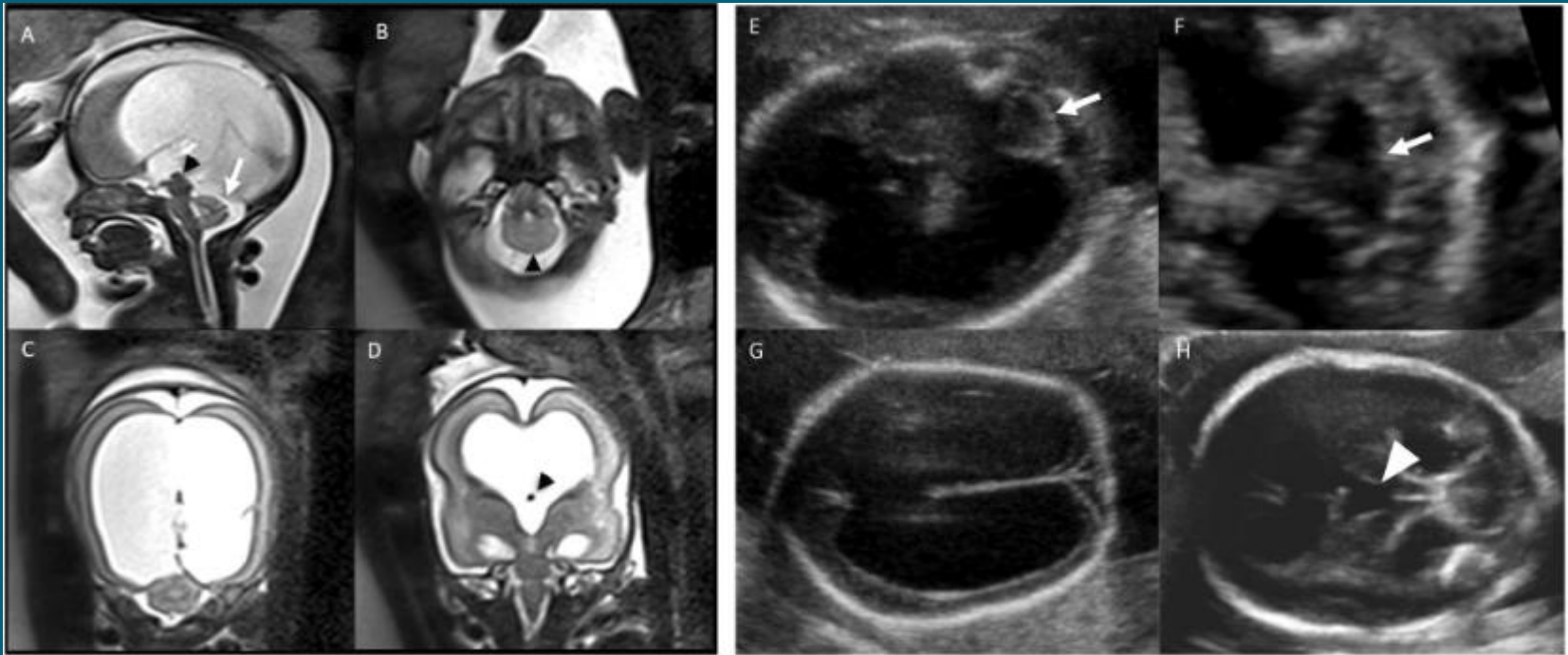
- Extension postérieure de la cavité septale en arrière des colonnes du fornix



Autres



- Rhombencephalosynapsis



Conclusion



- Importance de l'analyse systématique de la ligne médiane dans tout examen du cerveau foetal.
- Clés diagnostiques : CSP, corps calleux, vermis.
- Nécessité de l'approche intégrée : échographie + IRM + génétique.

Merci pour votre attention



- Questions?