

EMBRYONIC ANOMALIES ON ULTRASOUND BETWEEN 7 TO 11 WEEKS

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BACKGROUND

The embryonic period (7 to 11 weeks) is a critical window for organogenesis. High resolution transvaginal ultrasound allows reliable detection of major structural anomalies, which is important for timely counselling, and management.

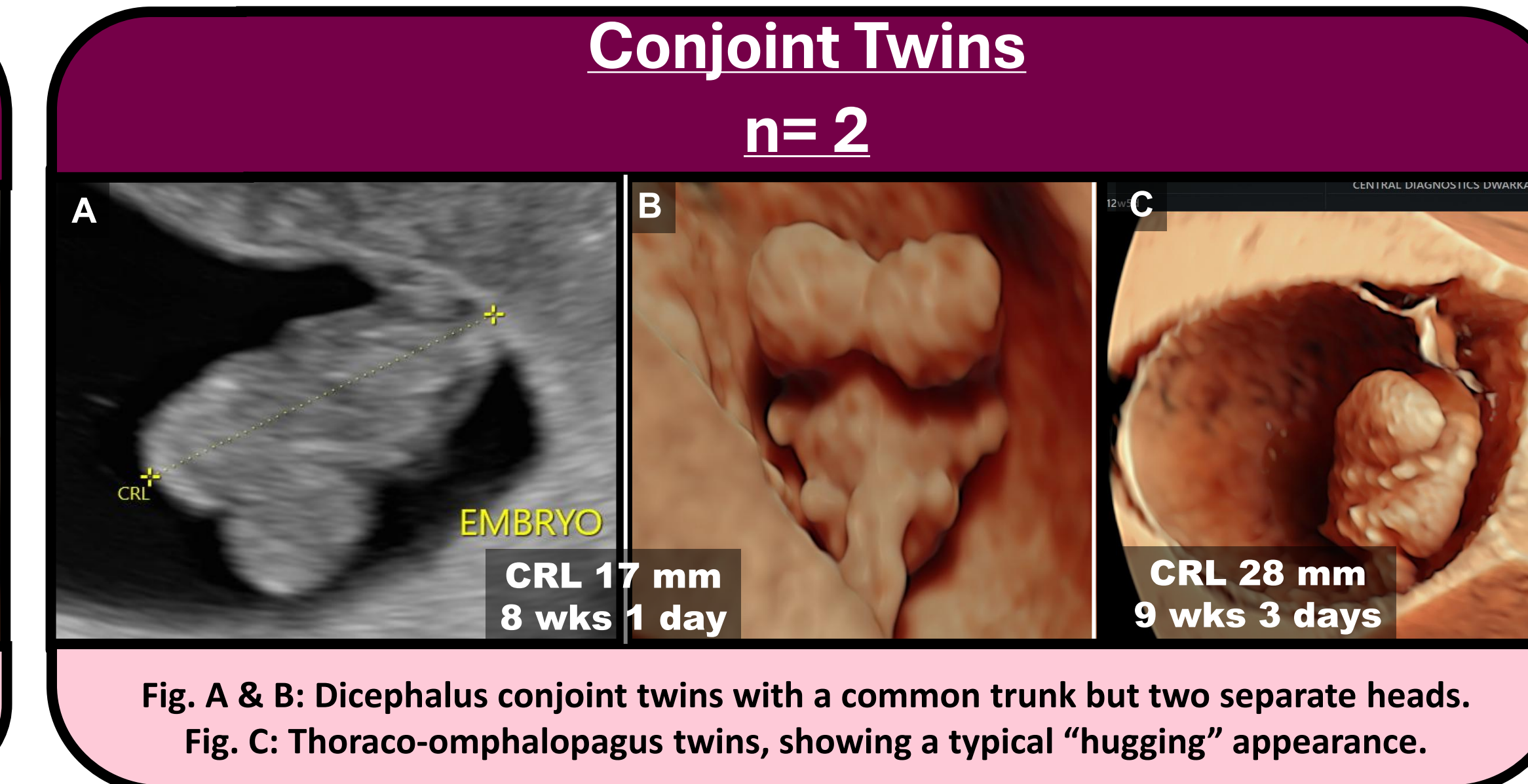
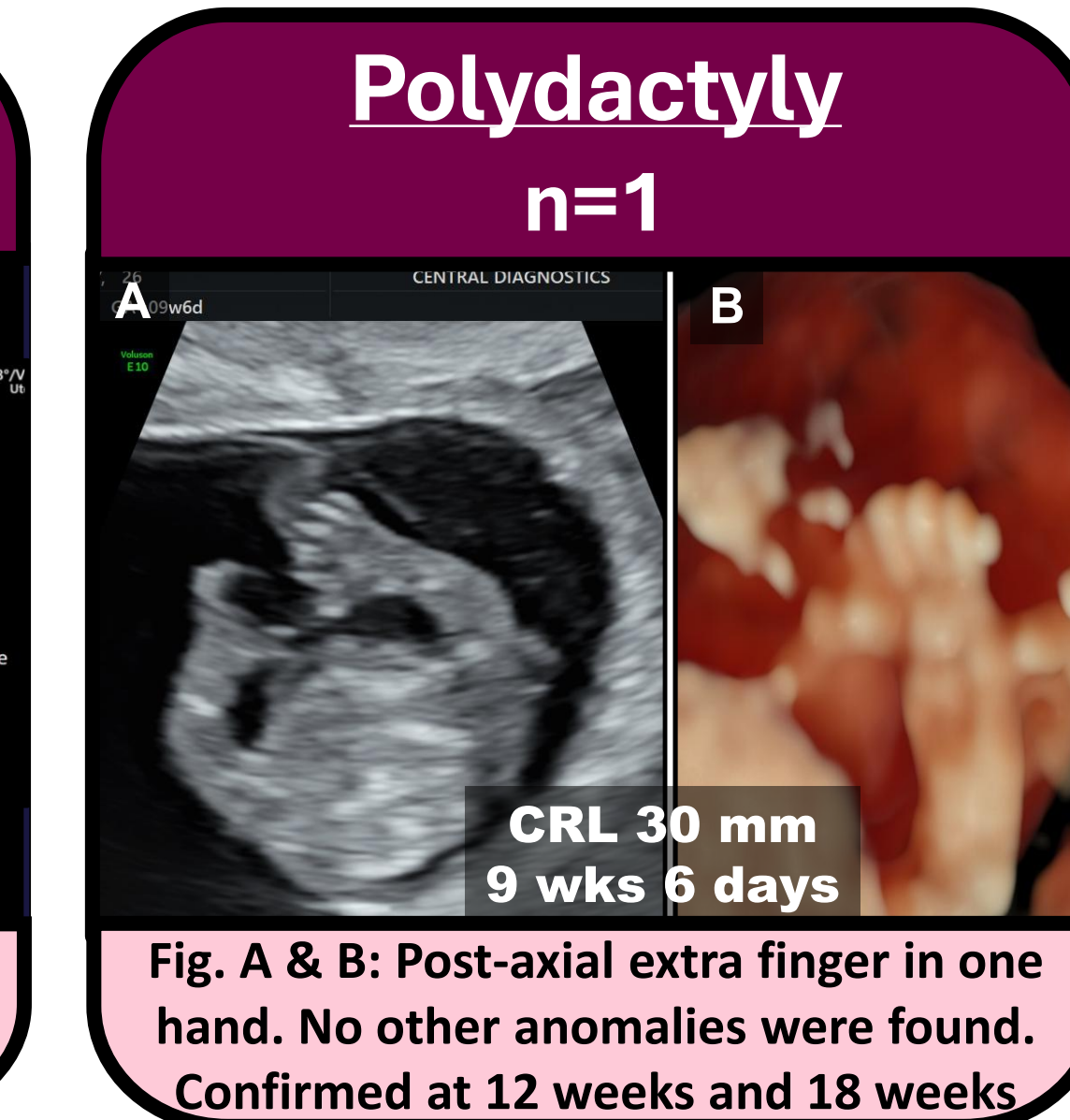
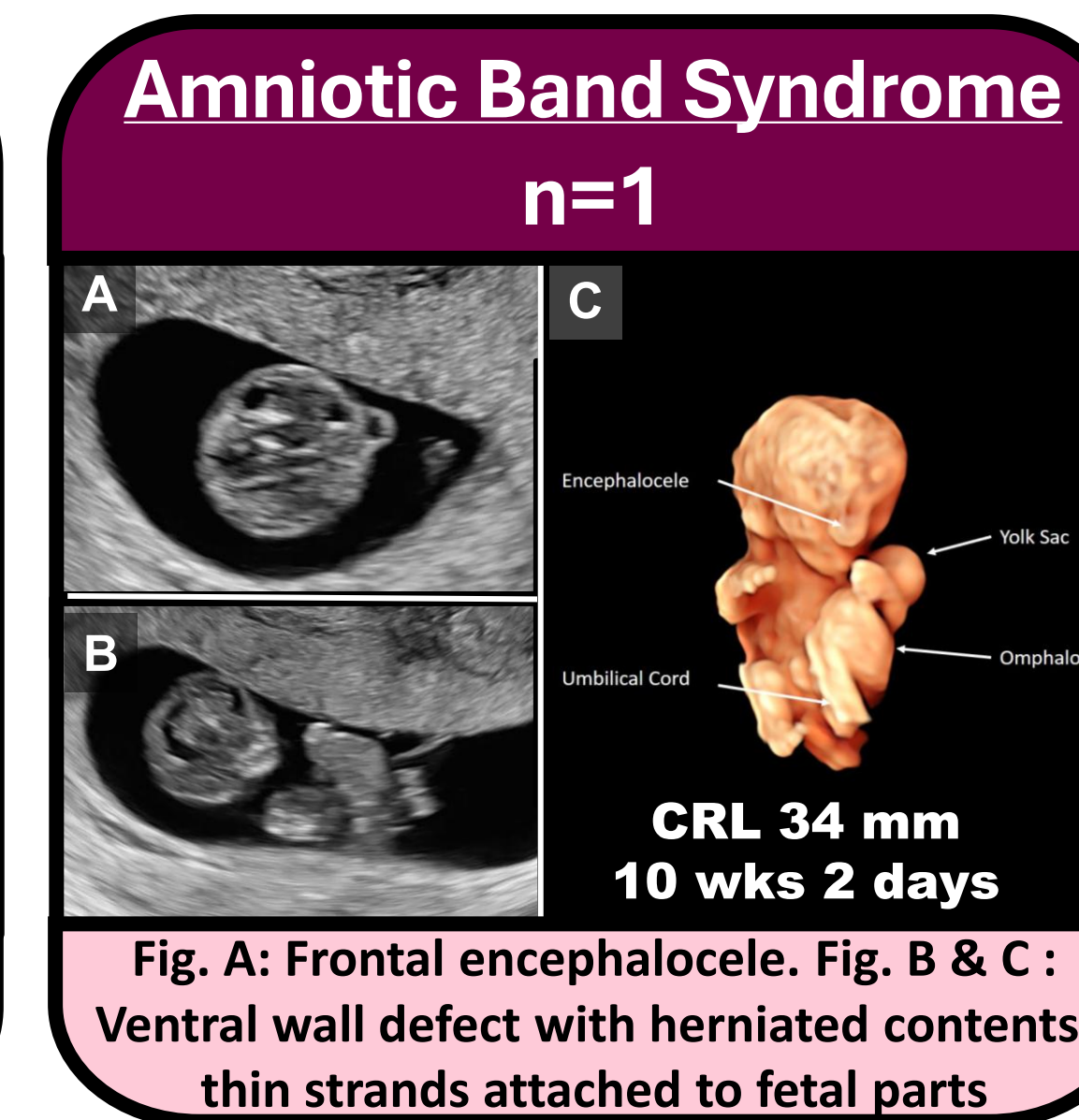
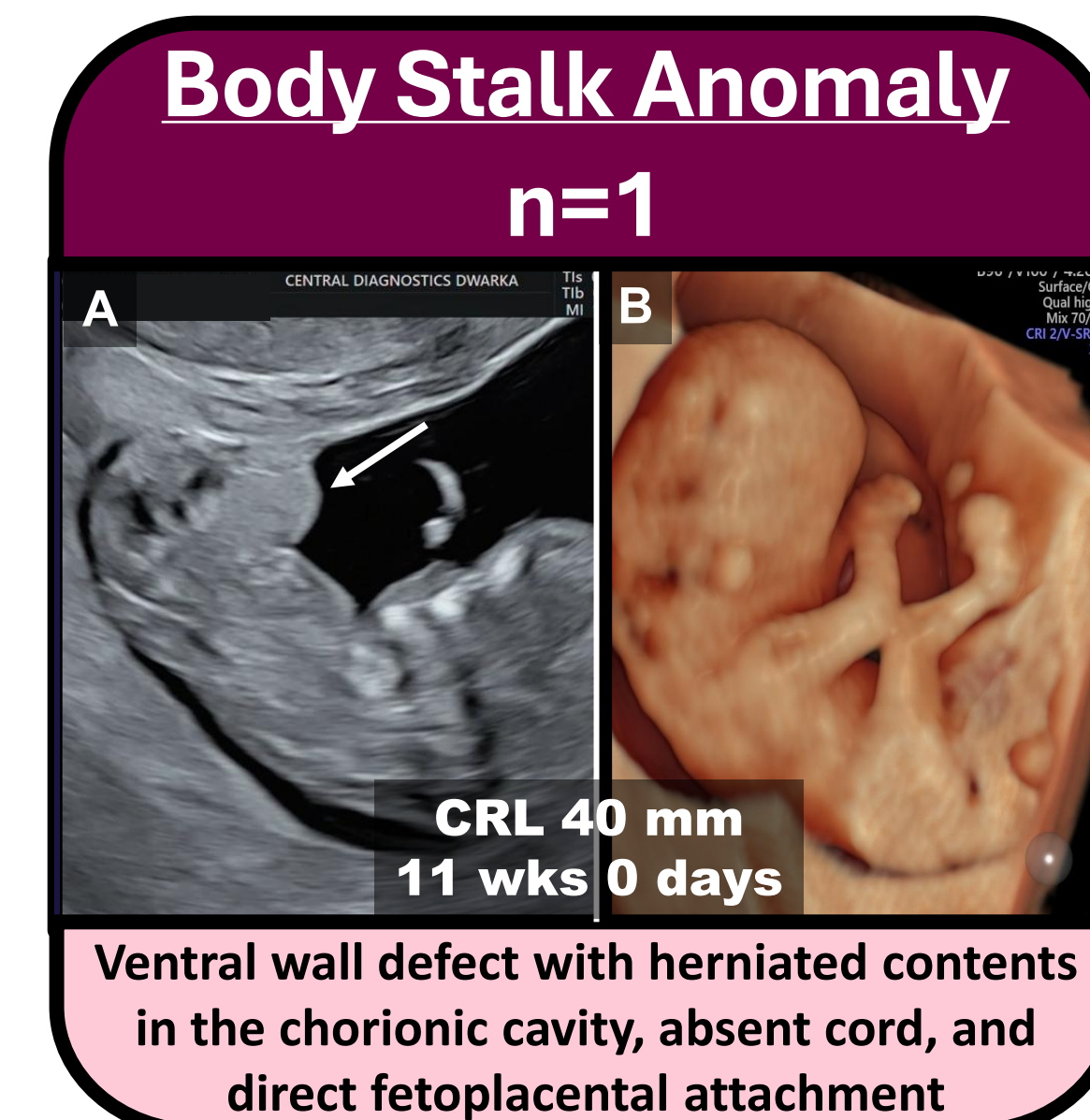
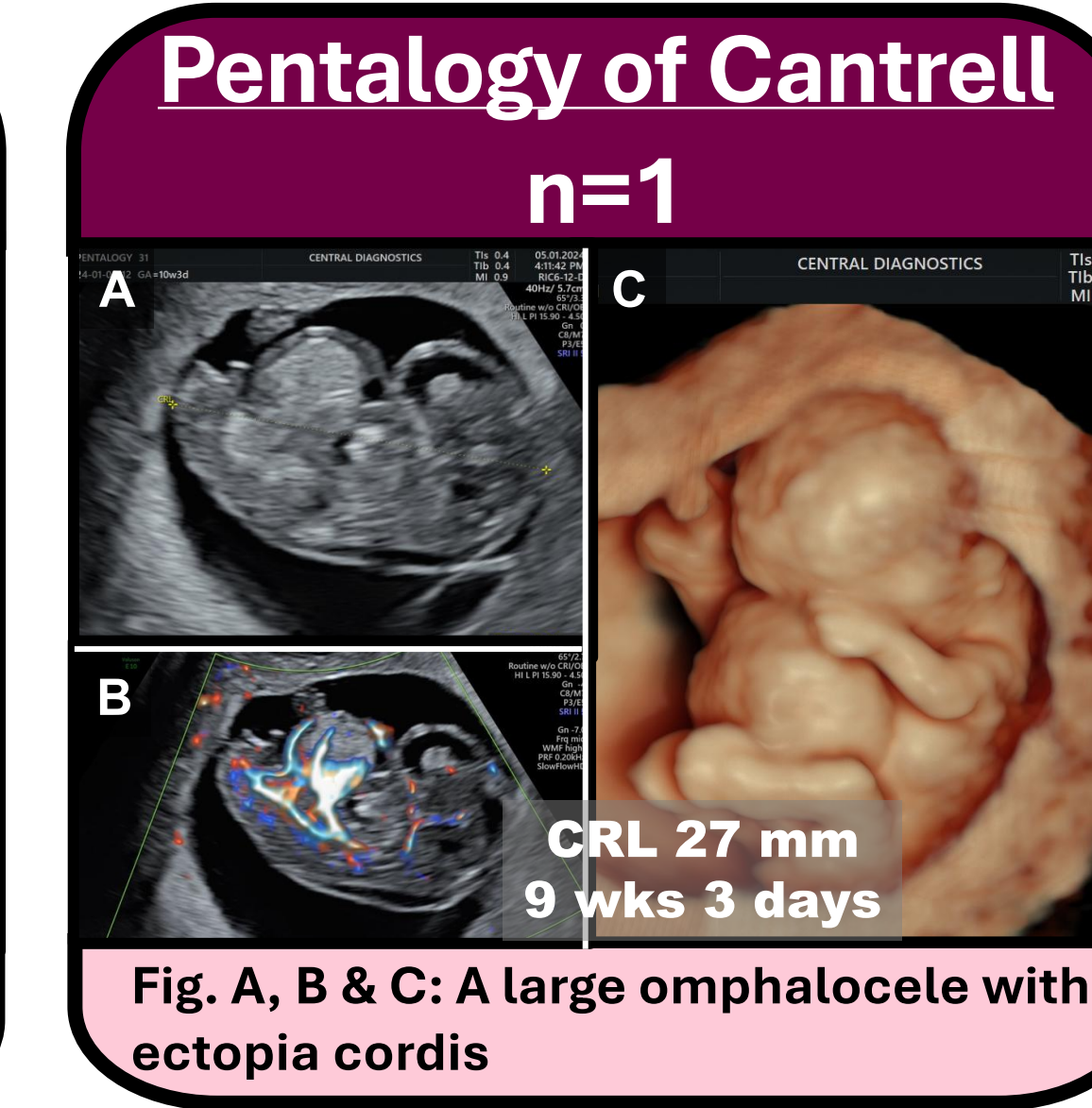
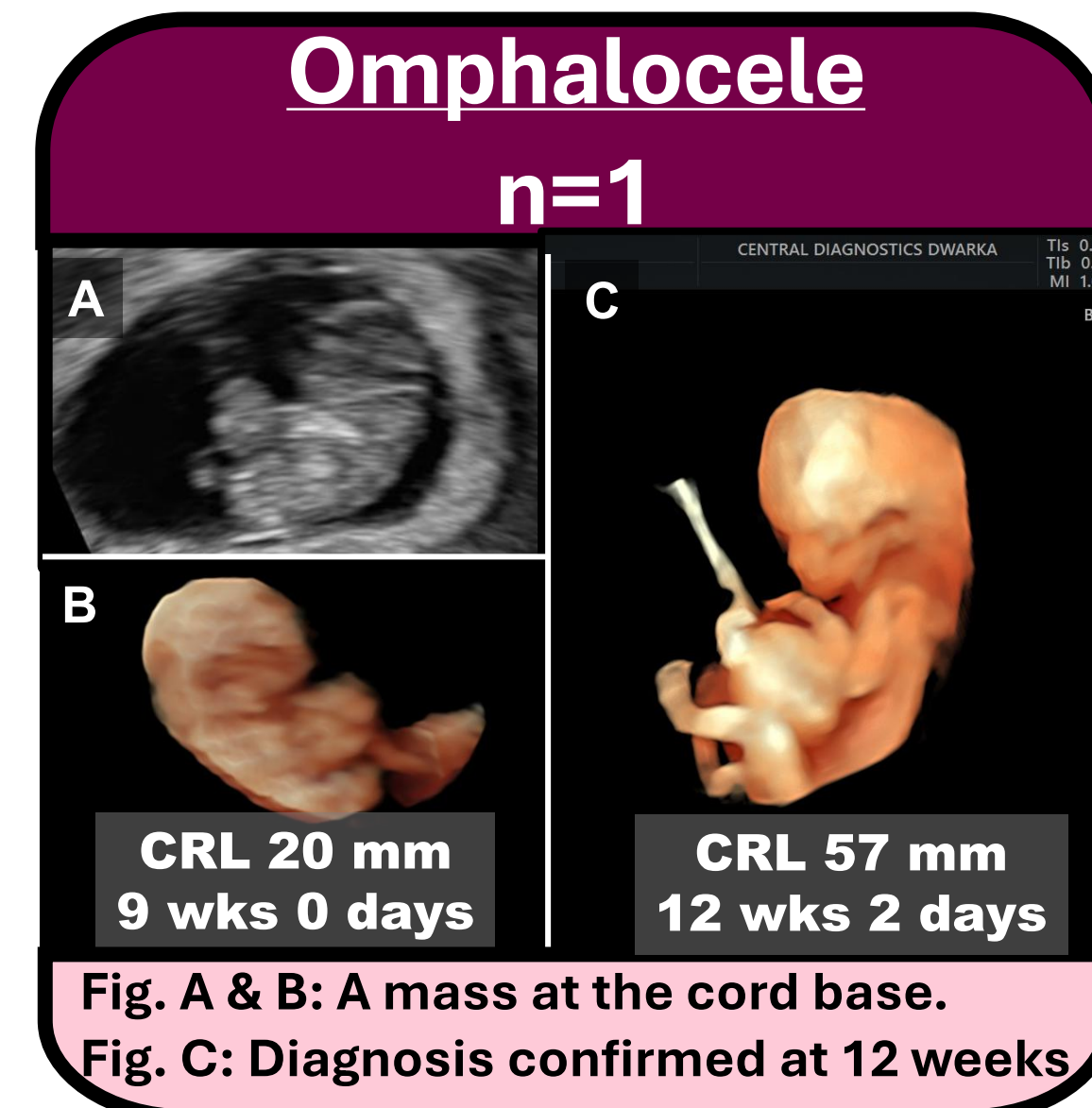
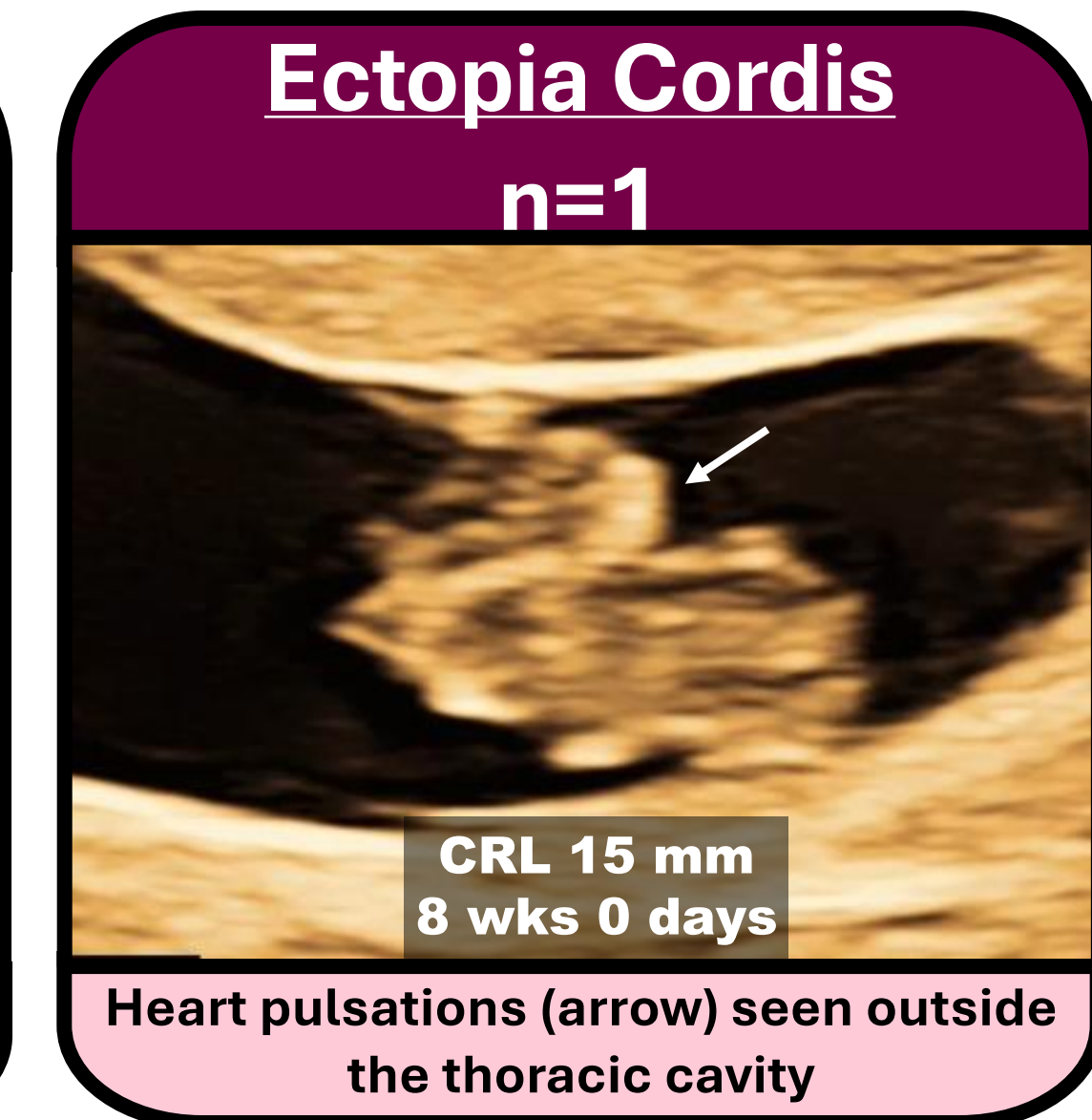
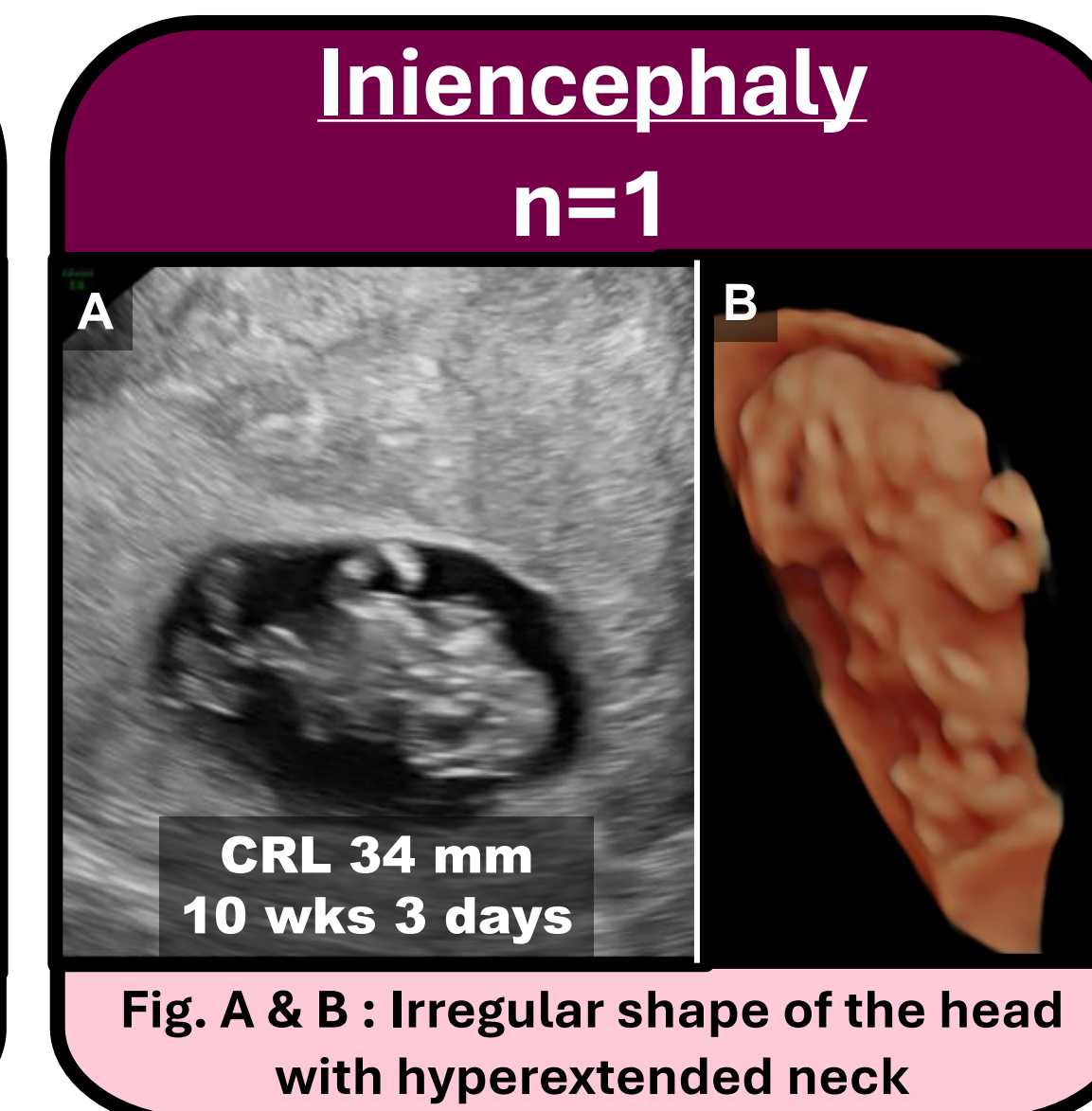
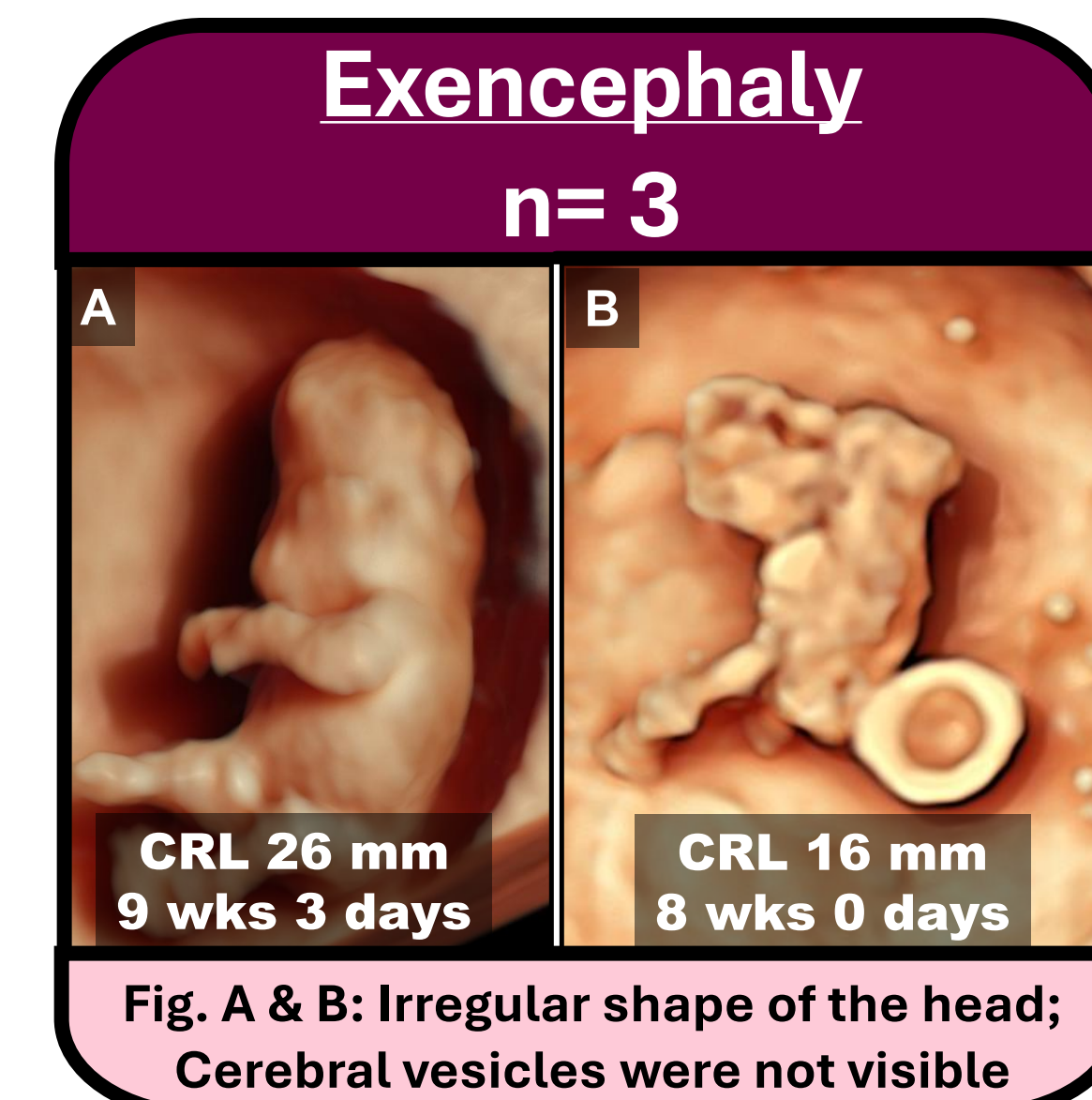
OBJECTIVE

To describe the spectrum and sonographic features of embryonic structural anomalies detected before 11 weeks and highlight the importance of early detailed morphological evaluation.

METHODS

- Case series of structural embryonic anomalies detected at 7–11 weeks between January 2023 and March 2025.
- Ultrasound examinations were performed during routine early-pregnancy assessment.
- High-resolution transabdominal and transvaginal ultrasound included systematic evaluation of embryonic morphology. 3D ultrasound was used for suspected anomalies.
- Cranial development, ventral body-wall integrity, cardiac position and limb morphology were specifically assessed.
- Diagnoses were based on characteristic sonographic findings and correlated with follow-up imaging.

RESULTS- 12 EMBRYONIC MALFORMATIONS WERE IDENTIFIED (7-11 WEEKS)



BENIGN FINDINGS

FINDINGS THAT RESOLVED ON FOLLOW-UP

Pericardial Effusion
n= 2
A small amount of fluid around the heart

Bilateral Pleural Effusions
n= 1
Small amount of fluid in bilateral thoracic cavity

CONCLUSION

A broad spectrum of major embryonic anomalies can be reliably detected before 11 weeks, underscoring the value of meticulous early first-trimester morphological assessment for a timely diagnosis.

SONOGRAPHIC ASSESSMENT BETWEEN 7-11 WEEKS: KEY POINTS



CRANIAL DEVELOPMENT



- Skull shape & integrity
- Cerebral vesicles
- Midline falx

VENTRAL BODY WALL



- Abdomen wall integrity
- Umbilical cord insertion
- Physiological herniation

CHEST ANOMALIES



- Position of the heart
- Pericardial effusion
- Pleural effusion

LIMB MORPHOLOGY



- All four limbs
- Limb orientation
- Polydactyly

OTHERS



- Yolk sac
- Chorion
- Twining

REFERENCES

- Rolnik DL, Wertaschnigg D, Benoit B, Meagher S. Sonographic detection of fetal abnormalities before 11 weeks of gestation. *Ultrasound Obstet Gynecol* 2020; 55: 565–574
- Merz E, Pashaj S. Embryonic and early fetal abnormalities diagnosed with three-dimensional ultrasound in the first trimester. *Donald School J Ultrasound Obstet Gynecol* 2023; 17: 202–216.