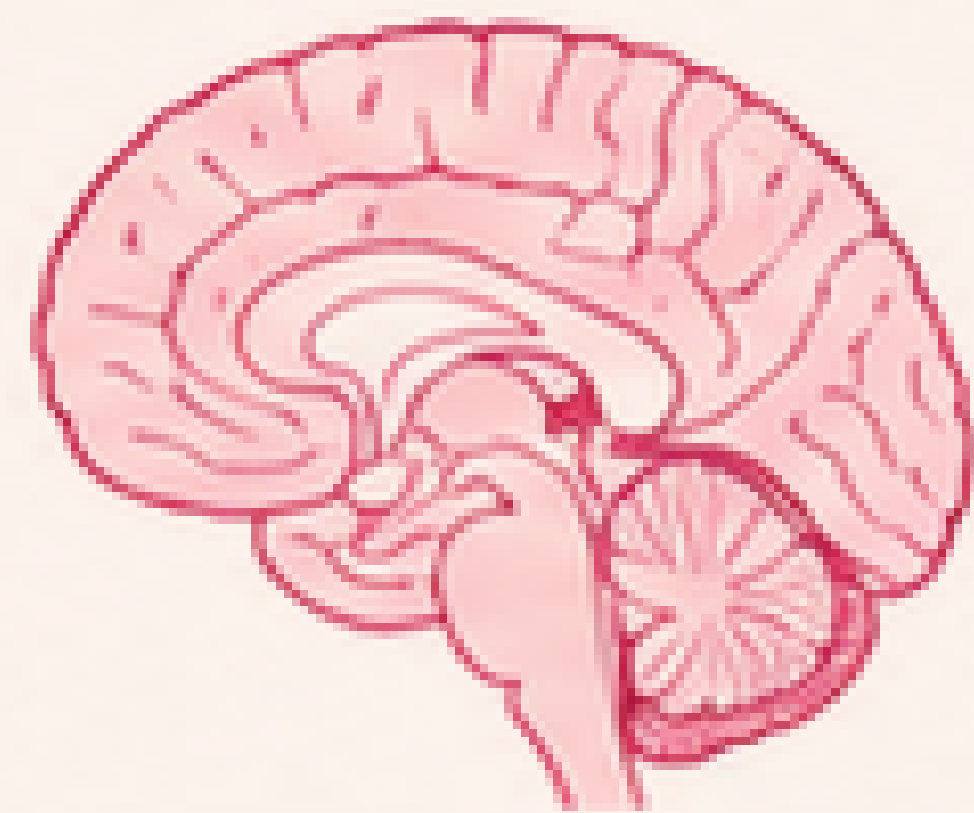




FIRST TRIMESTER INTRACRANIAL TRANSLUCENCY (IT) & CHOROID BAR AS A PREDICTOR OF POSTERIOR FOSSA MALFORMATIONS

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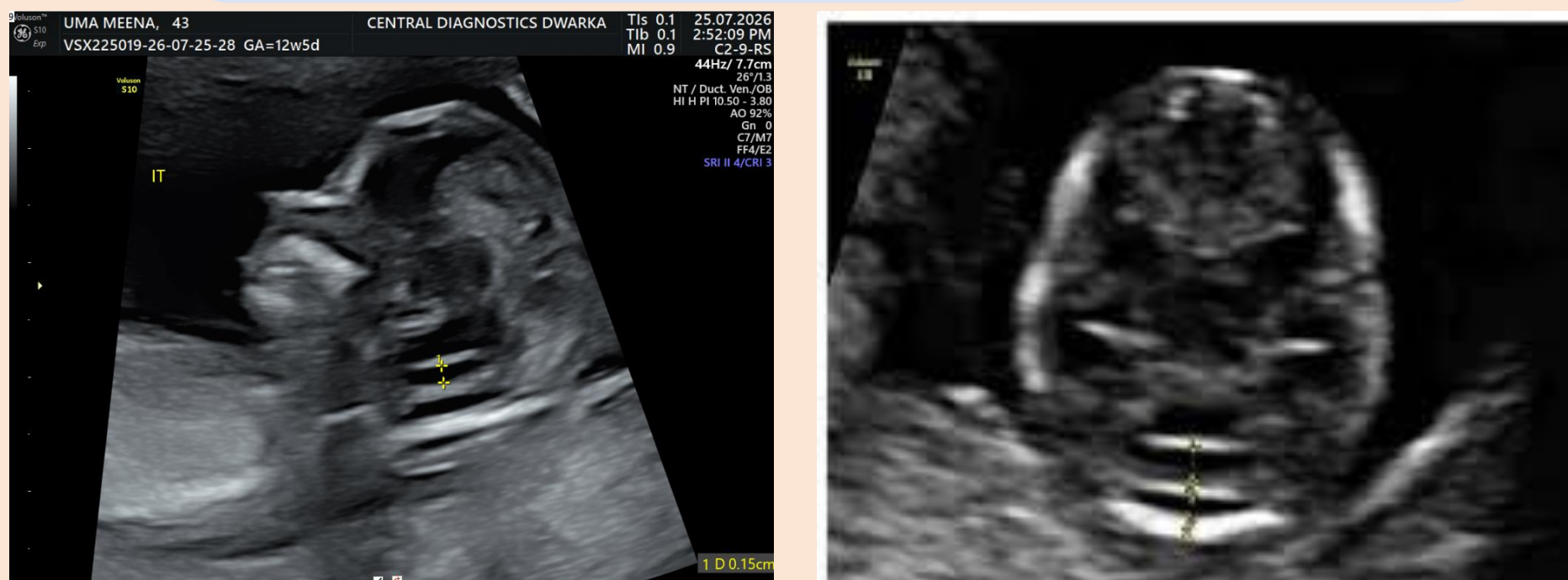


INTRODUCTION

- Early differentiation of posterior fossa anomalies remains a challenge in first-trimester screening.
- Intracranial translucency (IT), corresponding to the fourth ventricle on mid-sagittal imaging between 11–13+6 weeks.
- It has emerged as an important marker for early assessment of posterior fossa development.
- Accurate distinction between Dandy–Walker malformation and Blake’s pouch cyst is crucial due to differences in prognosis and counselling.



NORMAL 1ST TRIMESTER MID SAG & AXIAL SECTIONS



Brainstem, fourth ventricle, and cisterna magna are seen as three hypoechoic spaces.

These are separated by two echogenic lines: the posterior border of the brainstem and the choroid plexus of the fourth ventricle.

ROLE OF 4th VENTRICLE CHOROID PLEXUS & CHOROID BAR

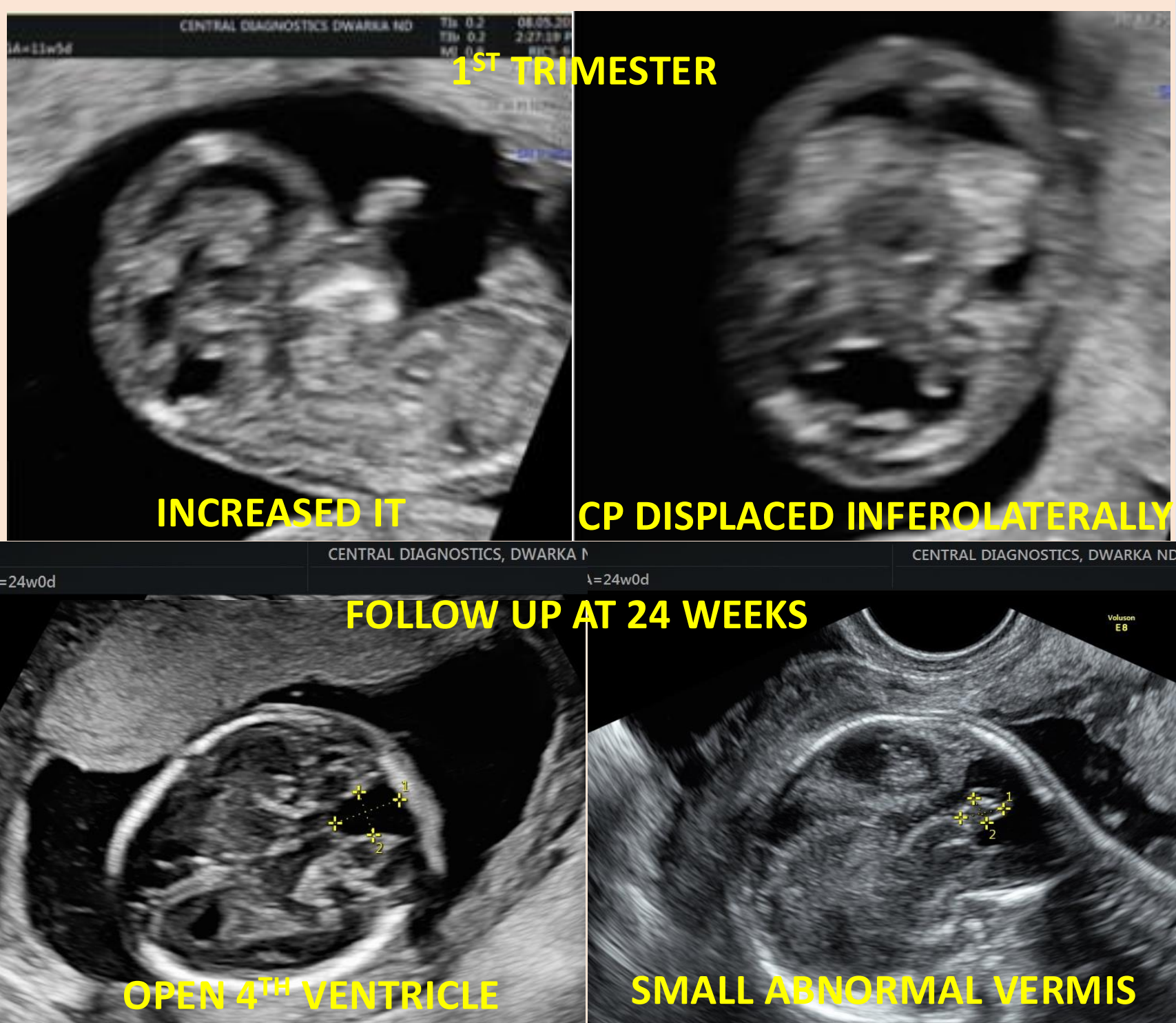
NON-VISUALISED 4th V CP

Cyst in anterior membranous area displaces the vertical limbs infero-laterally.

Thus, displacing the horizontal limbs (forming choroid plexus bar) laterally.

Choroid plexus of 4th ventricle is thus not visualized in mid sagittal plane.

DANDY WALKER MALFORMATION

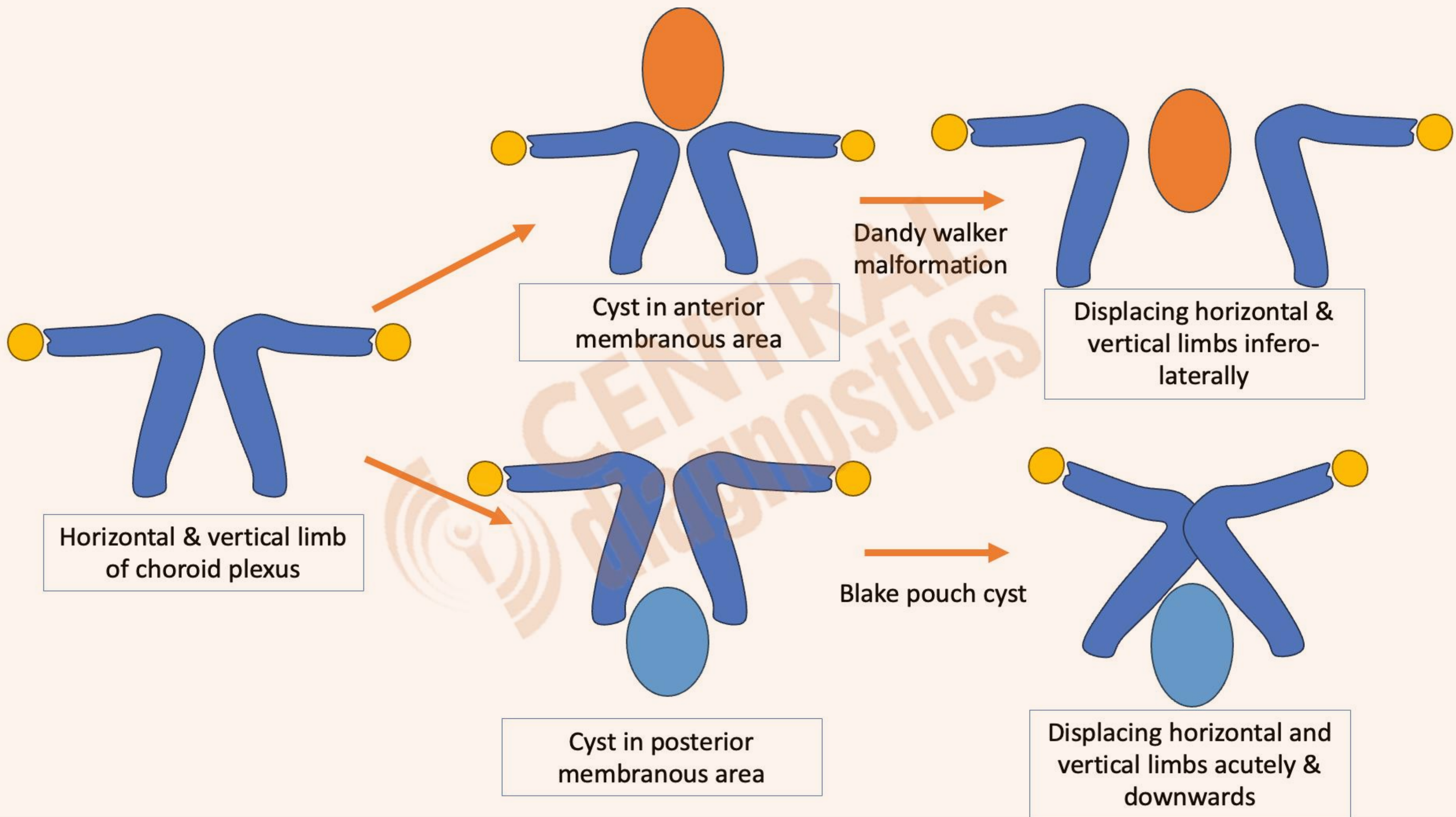
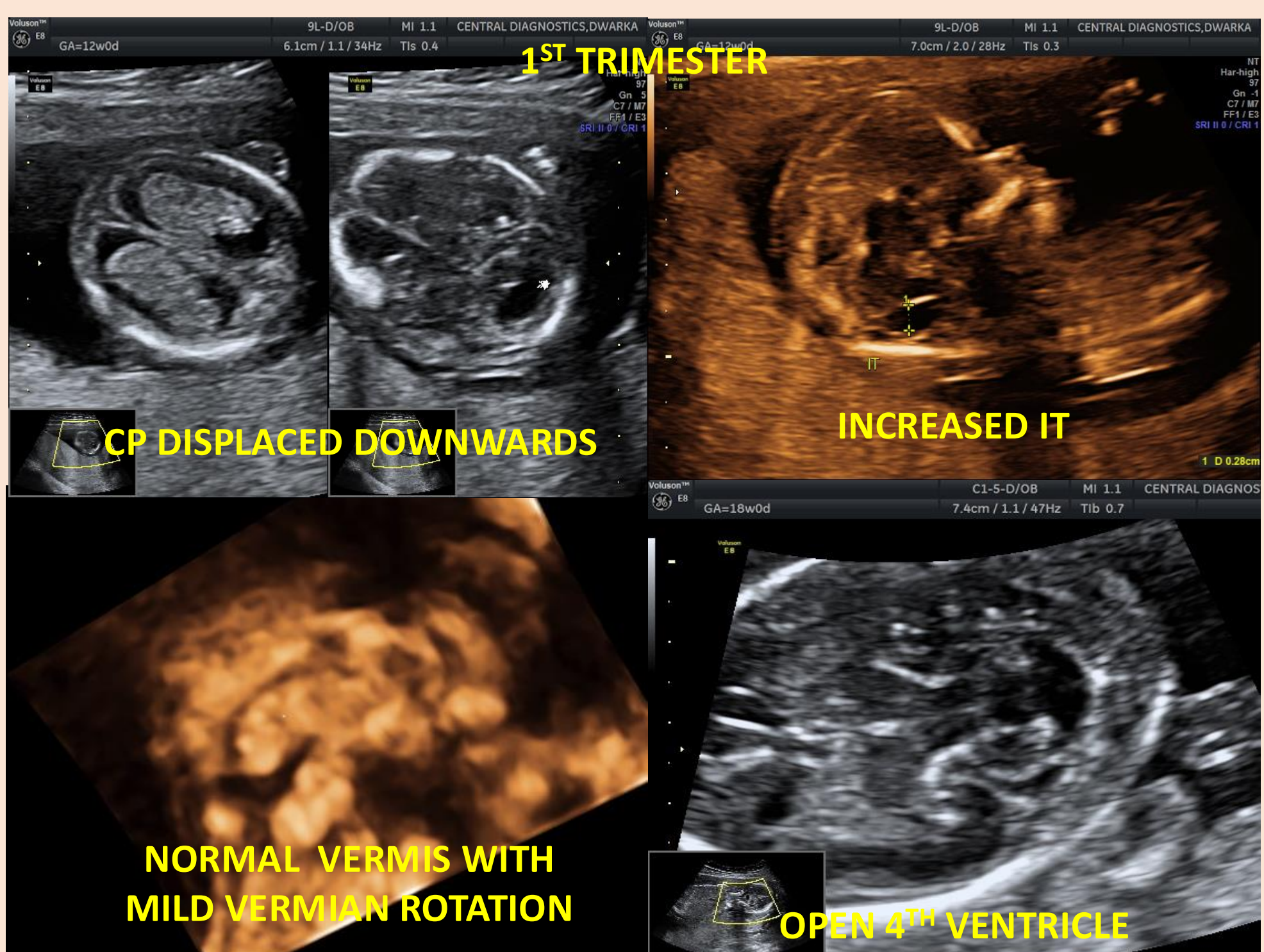


VISUALISED 4th V CP

Cyst in posterior membranous area displaces the vertical limb obliquely and downwards.

Thus, the 4th ventricle choroid plexus forming posterior echogenic line of Intracranial translucency is seen. Choroid plexus of 4th ventricle is visualized in mid sagittal plane.

BLAKE POUCH CYST



PARAMETER	DANDY WALKER MALFORMATION	BLAKE POUCH CYST
4 TH VENTRICLE CHOROID PLEXUS (IN MIDSAG)	ECHOGENIC LINE NOT SEEN	ECHOGENIC LINE IS SEEN
4 TH VENTRICLE CP POSITION(IN AXIAL)	DISPLACED INFERO-LATERALLY	DISPLACED DOWNWARDS
4 TH VENTRICLE CP SHAPE	TWO AP BARS(OUTSIDE CYST)	V SHAPED
CP BAR	NOT VISUALISED	NOT VISUALISED
ASSOCIATED FINDINGS LATER	VERMIAN HYPOPLASIA/AGENESIS, ENLARGED POSTERIOR FOSSA	KEY-HOLE APPEARANCE OF POSTERIOR FOSSA
PROGNOSIS	OFTEN ASSOCIATED WITH NEURODEVELOPMENTAL IMPAIRMENT	BETTER THAN DWM, BUT REQUIRES FOLLOW UP



RESULTS

- In cases of Dandy–Walker malformation, IT was markedly enlarged with absence of the 4th ventricle choroid plexus in mid sagittal view.
- Whereas, in Blake’s pouch cyst, IT was enlarged but 4th ventricle choroid plexus was seen within the cystic space, consistent with intact vermis.



CONCLUSION

Intracranial translucency and 4th ventricle choroid plexus in mid –sagittal view serves as an effective early sonographic marker for posterior fossa anomalies.

Incorporating IT assessment into routine first-trimester screening enhances early diagnosis, prognostic stratification, and parental counselling.