The visualization of a midline cystlike structure on routine axial ultrasound examination of the fetal brain could be a potential dilemma. Differential diagnosis includes true cystic lesions like arachnoid and interhemispheric cysts and normal anatomic structures such as cavum veli interpositi (CVI). CVI represents a potential space located above the tela choroidea of the third ventricle and is separated by the cavum vergae (CV) and cavum septi pellucidi (CSP) by the columns of the fornix. The aim of this study is to present two cases of prominent/mildly dilated CVI, one of them detected in a fetus, being the second one visualized in a preterm neonate, that could be misinterpreted as true cystic lesions and to give clues to its correct diagnosis.

The first case was detected in a routine examination of the fetal brain in a 21-week fetus: the cystlike structure was located posteriorly to the thalami in the axial plane. In the second case, an anechoic lesion was visualized in a 29-week preterm neonate, below the CSP and CV in a coronal posterior plane.

In both cases, the clues to identify correctly the cystlike image as CVI were to obtain the midline sagittal plane which allows to identify its anatomical landmarks: the inferior internal veins as its lateral and inferior borders, the columns of the fornix as its superolateral margins, separating it from CV and CSP, and the splenium of the corpus callosum located posteriorly and superiorly to it. The position of the internal veins has a particular importance once an arachnoid cyst of the quadrigeminal cistern is located inferiorly and not superiorly to them.

We show some tools to identify the CVI such as the use of Colour Doppler at midline sagittal plane. A familiarity with sonographic features of CVI is important to avoid equivocal diagnoses and unnecessary invasive tests.