Objective: Cavum Velum Interpositum (CVI) is a potential space below the splenium of corpus callosum and sometimes presents as a cystic structure. Since there is little information about the prevalence and size of these cysts in prenatal period, the aim of this study was to estimate their incidence and compare the CVI cyst size in normal fetuses and anomalous fetuses.

Method: In this prospective cross-sectional study at women’s Yas hospital, 360 fetuses with normal second trimester scan and 152 second trimester fetuses with any structural abnormality (who referred for legal termination) were included. The incidence and size of CVI cysts in both groups were recorded. Anomalous fetuses are also divided into groups with brain anomalies and an anomalies of extra-central nervous system (CNS). We followed cysts in the majority (60%) of fetuses with normal anomaly scan.

Results: The CVI cysts were more common in fetuses with brain anomaly compared to normal fetuses and fetuses with extra-CNS anomalies (23% vs 18.3% and 18% respectively; p value<0.01). The most common brain anomaly in fetuses with cyst was Dandy-Walker spectrum (47%) and in fetuses without cyst was ventriculomegaly (36%). The mean size of CVI cysts in normal fetuses was 4.6±1.1mm (range: 3.9-9.5mm). Also in fetuses with brain abnormality the mean size of CVI cysts was 9.2±3.7mm (range: 3.3-16mm) compared to 5.8±1.9mm (range: 3.9-9.7mm) in fetuses with extra-CNS anomalies. There was a significant difference between cysts size in normal fetuses and fetuses with brain anomalies (p value<0.01) and the cut-point was 7.1mm with a sensitivity of 70%, specificity of 98%, negative and positive predictive value of 92%.In normal group, only 3 cases had cyst size larger than 7.1mm and in these cases and all other followed cases the cysts resolved during pregnancy or after birth.

Conclusion: The prevalence of CVI cysts is more common in fetuses with brain anomaly compared to normal fetuses and fetuses with extra-CNS anomalies. In fetuses with a CVI cyst size greater than 7.1 mm in second trimester you need a more detailed brain examination. In normal fetuses with isolated CVI cysts, usually outcome is favorable.