Introduction
To assess the morphological changes and size of the median cavum septi pellucidi/cavum vergae area throughout gestation by use of three-dimensional ultrasound. Moreover, to describe associated malformations in cases of cavum septi pellucidi/cavum vergae enlargement or underdevelopment.

Methods
Volumes of normal fetal brains were acquired with 3D ultrasound either transabdominally or transvaginally with E8/E10 ultrasound equipment (GE) and analysed offline using a dedicated computer software. 368 singleton pregnancies between 18 and 40 weeks of gestation were used to assess the normal development of the cavum septi pellucidi/cavum vergae area in the median plane. In addition, 48 cases of abnormal cavum septi pellucidi/cavum vergae area were included in this study.

Results
Using 3D ultrasound we were able to demonstrate the normal development of the cavum septi pellucidi/cavum vergae area from 18 to 41 weeks of gestation. Between 18 and 22 weeks of gestation, the cavum septi pellucidi/cavum vergae appears in the median plane as one cavity underneath the corpus callosum. At 23 weeks of gestation the cavity can be sonographically divided in two parts: the anterior part represents the cavum septi pellucidi and the posterior part the cavum vergae. The area of cavum septi pellucidi is reduced during the third trimester, while the cavum vergae appears closed at term.

At 19 weeks of gestation the mean value of the cavum septi pellucidi/cavum vergae area in the midline is around 0.22 cm². The maximum of the area is found at 30-32 weeks of gestation with a mean value of 0.97 cm² and a gradual reduction can be observed at the end of gestation with a mean value of 0.6 cm².

Enlargement or underdevelopment of the cavum septi pellucidi/cavum vergae area were found in association with different chromosomal and structural abnormalities.

Conclusion
3D neurosonography serves as an excellent tool to measure the area of the fetal cavum septi pellucidi/cavum vergae in the median plane. Deviations from the normal size can be precisely detected.