The influence of fetal gender on the size of various portions of cerebral lateral ventricles

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Objectives
The potential influence of gender on ventricular atrial width is controversial. The aims of this study were to explore the influence of gender on the size of various portions of fetal cerebral lateral ventricles and to evaluate if it should be used different prenatal reference values for ventricular measurements according to gender.

Methods
This was a prospective descriptive observational study. A total of 604 neurosonographic studies were performed in normal fetuses between 19 and 23 weeks. Of these, 52.3% were male and 47.7% were female. The following cerebral ventricular measures were performed: atrial width (axial plane), anterior horn width (AHW) (coronal plane), ventricular height (VH) (parasagittal plane) and thalamic-occipital distance (TOD) (parasagittal plane).

Results
Cephalic head dimensions of male fetuses were superior to those of female ones (biparietal diameter –BPD- and cephalic circumference- CC).

Male fetuses also had slightly higher ventricular measures of all portions of lateral ventricles (P<0.009), compared to female fetuses (atrial width 4.9%, AHW 3.6%, VH 4.3% and TOD 3.0%). Nevertheless, when all ventricular measurements were adjusted for cephalic dimensions, differences according to gender disappeared, except for the atrial width, which persisted higher in male fetuses: atrium/BPD (P<0.03) and atrium/CC (P<0.004).

Conclusion
In the second trimester, male fetuses have slightly wider ventricular atrium than female fetuses. Concerning the other ventricular portions, gender differences disappeared when adjusted for cephalic dimensions. The use of different prenatal reference curves of ventricular size for male and female fetuses is not justified.