**Objectives**

- To assess the correspondence of PI and PSV measurement between the MCA closer and the MCA distal relative to probe placement in fetuses after 20 weeks of gestation.
- To identify if differences in measurement site could change the significance.

**Methods** A multicenter, multioperator snapshot observational study between 01.02.2018 and 09.03.2018 measured both proximal and distal MCA's PI and PSV, using automated trace method of ultrasound machine, for 107 consecutive fetuses examined with gestational age between 20-38 weeks.

**Results** We consider differences to be generated by 2 main particularities:
- The bony structure in which MCA is nested giving interfaces and propagation environment with changed speed for ultrasounds; consequently the difference in speed evaluated by Doppler will differ with the amount of bone passed by ultrasound beam;
- The spatial architecture of bones in the base of the skull will result in angulation not only in horizontal plane, spatial angulations that can’t be compensated for.

**Conclusion**

Taking into account the distal MCA measurement when is more difficult to address the proximal MCA will generate a bias not accounted for current interpretations of calculations for clinical use and have the potential to change the interpretation and patient management.

We found 6 cases (5.6%) for which the difference in MCA’s PSV could change the clinical interpretation.