Objectives
Our aim was to evaluate the role of middle cerebral artery peak systolic velocity (MCA-PSV) in the prediction of fetomaternal hemorrhage (FMH) in patients with decreased perception of fetal movements (DFM).

Methods
Prospective observational study of women with a singleton low-risk pregnancy who presented to our Emergency Room from January to December 2018. Each woman underwent a fetal biophysical profile and a fetal Doppler assessment including umbilical artery and cerebral Doppler. Flow cytometry test was used to confirm FMH when suspected. Labor and neonatal data were retrieved after delivery from the patients’ records.

Results
A total of 104 patients were included in this study. Median gestational age at first ultrasound evaluation was 37 weeks (24-41). Cardiotocography (CTG) patterns were non reactive in 10.6% (11/104), pathological in 1.9% (2/104) and sinusoidal in one case. Median cerebroplacental ratio (CPR) was 1.66 (0.65-4.15), with 24% (25/104) fetuses presenting CPR values < 5th centile; median MCA MoM was 0.97 (0.30-2.16). We found 1.9% (2/104) of severe feto-maternal hemorrhage (confirmed by flow cytometry) test requiring urgent cesarean section and neonatal transfusion. Overall, 2.9% (3/104) of women returned a second time to our emergency room for DFM: two of these had a normal pregnancy outcome and one had a stillbirth.

Conclusion
Fetomaternal hemorrhage happens more frequently than we thought. Fetal cerebral Doppler was found to be accurate in the diagnosis of FMH, in particular in women complaining decreased perception of fetal movements. Women with a history of DFM have a higher risk of perinatal complications.