



Evaluation of the quality and reliability of middle cerebral artery and umbilical artery Doppler images in a randomized controlled trial

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Objective

To evaluate the quality and the inter- and intraobserver reproducibility of the middle cerebral artery and umbilical artery Doppler measurements performed in a multicenter randomized controlled trial "Ratio37: Revealed versus concealed criteria for placental insufficiency in unselected obstetric population in late pregnancy.

Methods

20 patients were randomly selected (2 images per patient, umbilical artery and middle cerebral artery) from each of the 6 participating centres. A total of 240 images were evaluated by 3 different experts and scored on an objective scale of 6 items. Images scoring more than 4 points were defined as good quality. The agreement between expert was assessed by inter-class correlation coefficient.

Results

According to each rater respectively, a total of 95%, 90% and 85% of the images were objectively classified as good images. The inter-professional reproducibility reached a 61% (95% CI, 21 to 83%), which is acceptable.

Conclusion

The quality of the measurements was good in more than 85% of the cases. The inter-observer reliability was found acceptable.

