

[EP16.154] Ophthalmic artery Doppler in pregnancies complicated by pre-eclampsia at the time of diagnosis

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Objective

To compare ophthalmic artery Doppler parameters between preeclamptic and non-preeclamptic women.

Methods

This was a prospective cohort study including pregnancies complicated by preeclampsia and uncomplicated pregnancies, who underwent standardized maternal ophthalmic ultrasound at the time of clinical diagnosis and matched for gestational age with uncomplicated pregnancies. The following parameters were measured bilaterally: first peak systolic velocity (PSV1), second peak systolic velocity (PSV2), the PSV2/PSV1 ratio, and the pulsatility index (PI). The values on Doppler parameters were compared with a student t-test for independent samples.

Results

A total of 49 women were included: 39 with uncomplicated pregnancies and 10 with preeclampsia. No significant differences were observed between groups in maternal age, body mass index, ethnicity, comorbidities, nulliparity, mode of conception and smoking status. While PSV1, PSV2 and PI values were similar in both study groups [Preeclampsia median (IQR) 36.3 cm/s [fc1] (28.7-44.1) vs. uncomplicated pregnancies 32.7 cm/s (27.6-40.1), $p=0.20$; 18.3 cm/s (13.8-23.5) vs. 21.6 cm/s (19.4-33.9); $p=0.06$; 2.15 (1.87-2.57) vs. 2.05 (1.56-2.21) $p=0.53$, respectively], PSV ratio was significantly higher in women with preeclampsia as compared to uncomplicated pregnancies [0.7 (0.64-0.84) vs. 0.52 (0.44-0.60), $p<0.001$].

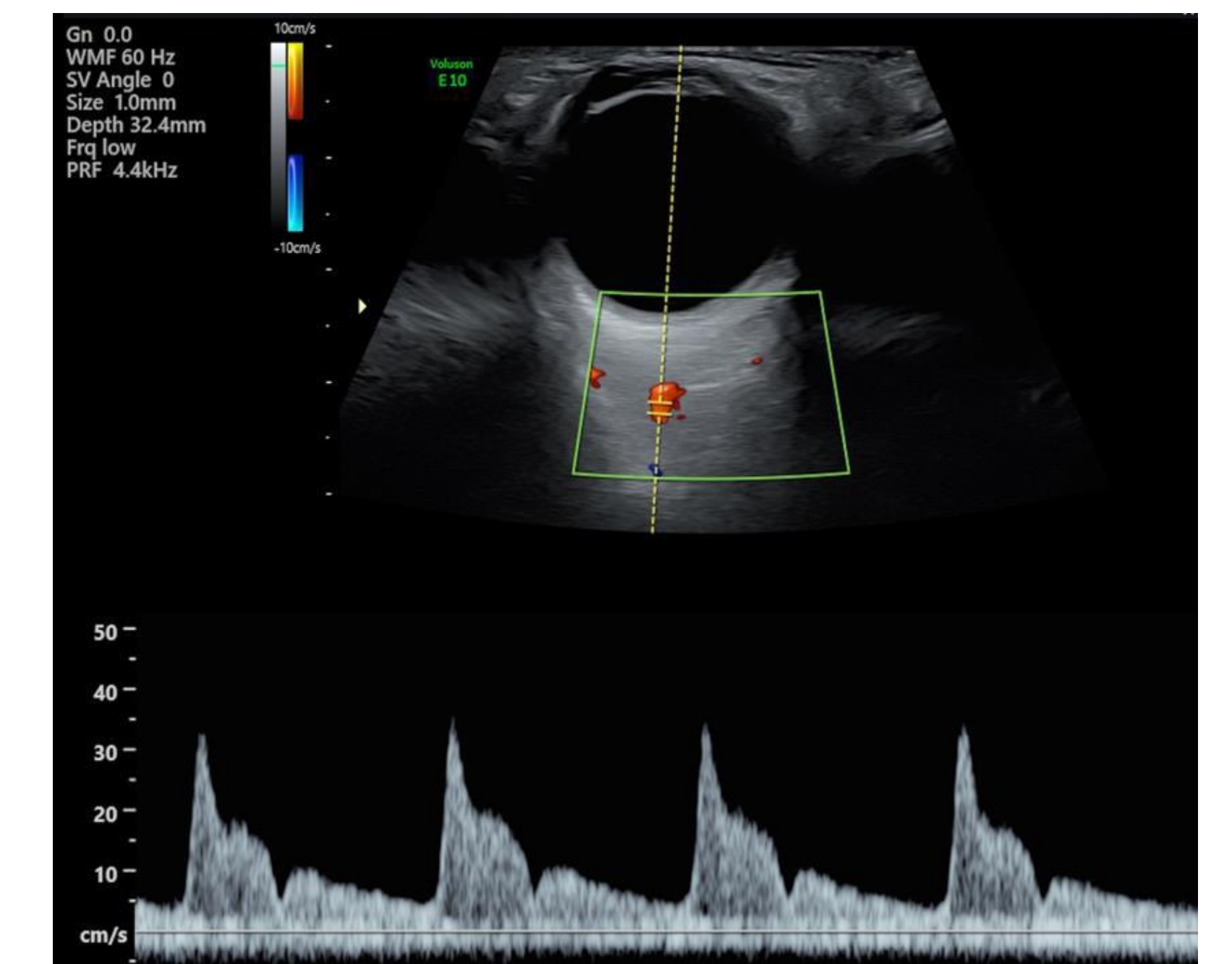


Figure1. Ultrasound image of right orbit with color flow of ophthalmic artery.

Conclusion

These findings confirm PSV2/PSV1 ratio as the most sensitive ophthalmic artery Doppler parameter for preeclampsia. Further research is needed to investigate the implementation of this parameter in clinical practice.