Can venous pulse transit time at supracardiac level predict clinical deterioration in early-onset preeclampsia? Report of two cases

Inge **Dierickx** [1,2,*], Chahinda **Ghossein-Doha** [3], Wilfried **Gyselaers** [2,4]

[1] Department of Obstetrics and Gynaecology, Sint Lucas Ziekenhuis, Gent, Belgium.
[2] Department of Physiology, Hasselt University, Hasselt, Belgium.
[3] Department of Cardiology, Maastricht University Medical Center+ (MUMC+), Maastricht, The Netherlands.
[4] Department of Obstetrics, Ziekenhuis Oost-Limburg, Limburg, Genk, Belgium.

DOI: 10.36129/jog.2024.S53

Objective. Early-onset preeclampsia is characterized by a significant lower venous pulse transit time at supracardiac level compared to uncomplicated pregnancy. The objective is to investigate the time onset of abnormal venous pulse transit time at internal jugular veins relative to onset and course of early-onset preeclampsia.

Materials and Methods. Consecutive combined Doppler-Electrocardiogram measurements at the internal jugular veins were performed in two pregnant women, and plotted against the normal reference range.

Results. In the latent phase of disease, jugular vein pulse transit times were within the normal range. However, a drop-in venous pulse transit time was observed in both women, respectively 10 and 6 days before deterioration of early-onset preeclampsia, indicating termination of pregnancy.

Conclusions. In those two case reports, a decrease of venous pulse transit time in pregnancy preceding severe deterioration of early onset preeclampsia was observed. This raises an intriguing question: might the clinical value of maternal venous Doppler-ECG assessment of the jugular veins be similar to that of foetal ductus venosus assessments? Larger prospective studies are needed.