

# Evolution of sFlt-1/PIGF ratio and blood pressure levels in twin uneventful pregnancies compared to those developing placental dysfunction

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**INTRODUCTION** Pregnancy complications related to placental dysfunction, such as preeclampsia or fetal growth restriction (FGR), are widely known to be more prevalent in multiple pregnancies than in singleton gestations. Our objective was to determine the evolution of sFlt-1/PIGF ratio in normal twin pregnancies compared to twin pregnancies developing complications associated with placental dysfunction (preeclampsia, fetal growth restriction, abruption placentae, HELLP syndrome).

**MATERIALS AND METHODS.** Prospective study approved by the ethics committee of La Fe University and Polytechnic Hospital (Valencia, Spain). All pregnant women with a twin gestation were included, from March 2021 to October 2022. Signed informed consent was obtained from all patients. sFlt-1/PIGF ratio and blood pressure levels were measured at 12, 24, and week 32 weeks of pregnancy. Mean, median, and four quartiles of each value were collected and calculated, both for tensional ciphers and sFlt-1/PIGF ratio results, in favor of discerning patterns and trends.

**RESULTS.** A total of 60 twin pregnancies were included: 48 were uneventful, 7 developed preeclampsia, and 5 were complicated by fetal growth restriction. Mean blood pressure levels were higher in pregnancies that developed preeclampsia than in uneventful gestations at 12 weeks (87.8 vs 96.0;  $p=0.013$ ) and at 24 weeks (85,2 vs 96;  $p=0.001$ ). Furthermore, sFlt-1/PIGF ratio was higher in twin pregnancies with preeclampsia or fetal growth restriction at 24 weeks (3.5 vs 8.4,  $p=0.001$ , and 3.5 vs 38,  $p=0.002$ , respectively). Non-statistical differences were found when comparing other groups.

**CONCLUSION.** Blood pressure measurement and sFlt-1/PIGF ratio determination throughout pregnancy could be useful to monitor twin gestations and to early identify those with placental dysfunction. Further studies are required to unveil the placental physiopathology in twin pregnancies and to select early those gestations complicated with placental dysfunction.

