Evaluation of ultrasound monitoring in the management of twin pregnancies

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Objective
To evaluate the impact of a systematic approach to ultrasound monitoring on the outcome of twin pregnancies.

Methods
This is a longitudinal, descriptive and comparative study, over a period of 15 months from June 2012 to October 2013, comparing the pregnancy outcomes of two groups of patients: the first (G1=35) included patients followed in our consultation from the first trimester with a structured, systematic ultrasound protocol adapted to the chorionicity. The second (G2=64) included women with twins who had a traditional prenatal care or who had given birth in our department during the same study period.

Results
The mean age was significantly higher in the first group of patient. The first trimester ultrasound was performed routinely in all patients of G1 against 60% in G2. This exam allowed the systematic determination of chorionicity, screening for aneuploidies and other anomalies such as birth weight discordance in G1. Monthly and systematic measurement of cervical length (CL) in G1 demonstrated a significant relationship between a CL less than 30 mm measured between 22 and 24 weeks and premature labor. Similarly, a significant benefit was demonstrated through this systematic ultrasound measurement of CL for ultrasound screening of premature labor (p=0.018), the time saved by tocolysis (p=0.023), as well as the medium gestational age at birth (p=0.046). Concerning growth abnormalities, ultrasound was relevant in estimating fetal weights, in the prenatal diagnosis of low birth weight, and in the diagnosis of moderate and severe weight discordance. The diagnosis of TTS was made at a later stage in G2 and the management of this situation was more difficult and delayed in any emergency context. The diagnosis of fetal death of one twin imposed an ultrasound monitoring suitable for chorionicity, with a statically significant benefit between the two groups in terms of time between the death of first twin and the birth of the second one (p=0.032), and the medium gestational term at birth of the survivor (p=0.042).

Conclusion
For twins systematic ultrasound monitoring must be scheduled in the first trimester and adapted to their chorionicity. Regularity of the ultrasound monitoring must be adapted to therapeutic options facing specific complications to monochorionicity.