

EP15.08 : Accuracy of first-trimester ultrasound in predicting abnormal pregnancy evolution in missed abortions

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Objectives

→ To evaluate the diagnostic accuracy of first-trimester ultrasound markers in predicting pregnancies that will result in missed abortion.

Methods

A prospective observational study was conducted at the Tunis Maternity and Neonatology Center, Service C, from January 2024 to December 2025. Women presenting for routine first-trimester ultrasound between six and ten weeks of gestation with a viable intrauterine pregnancy were included. Baseline ultrasound parameters included crown-rump length, mean gestational sac diameter, yolk sac morphology, fetal heart rate, gestational sac shape, and presence of subchorionic hematoma. Patients were followed clinically and sonographically until twelve weeks. The primary outcome was missed abortion diagnosed on follow-up ultrasound. Predictive value of each marker was assessed, and statistical analysis was performed using SPSS version 26, $p < 0.05$.

Results

A total of 168 women were included. Missed abortion occurred in 21 pregnancies (12.5 percent). Fetal heart rate below 100 beats per minute before seven weeks was observed in 28.6 percent of pregnancies that ended in missed abortion versus 5.4 percent of ongoing pregnancies ($p = 0.002$). Enlarged yolk sac (>6 mm) was present in 19.0 percent versus 4.1 percent ($p = 0.01$), irregular gestational sac shape in 23.8 percent versus 7.2 percent ($p = 0.02$), and subchorionic hematoma in 28.6 percent versus 13.0 percent ($p = 0.04$). The presence of two or more abnormal markers increased predictive value to 48 percent.

Conclusion

Several first-trimester ultrasound markers identify pregnancies at increased risk of missed abortion. Early detection may improve patient counseling and guide closer surveillance during early pregnancy.