

EP08.39 Impact of maternal body mass index on fetal cardiac performance and structure at 24–28 weeks' gestation

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STUDY SNAPSHOT

99
singleton pregnancies

24–28 weeks'
gestation

BMI and body
composition recorded

JAWEST
intelligent scales

Samsung HERA Z20
ultrasound system

OBJECTIVE

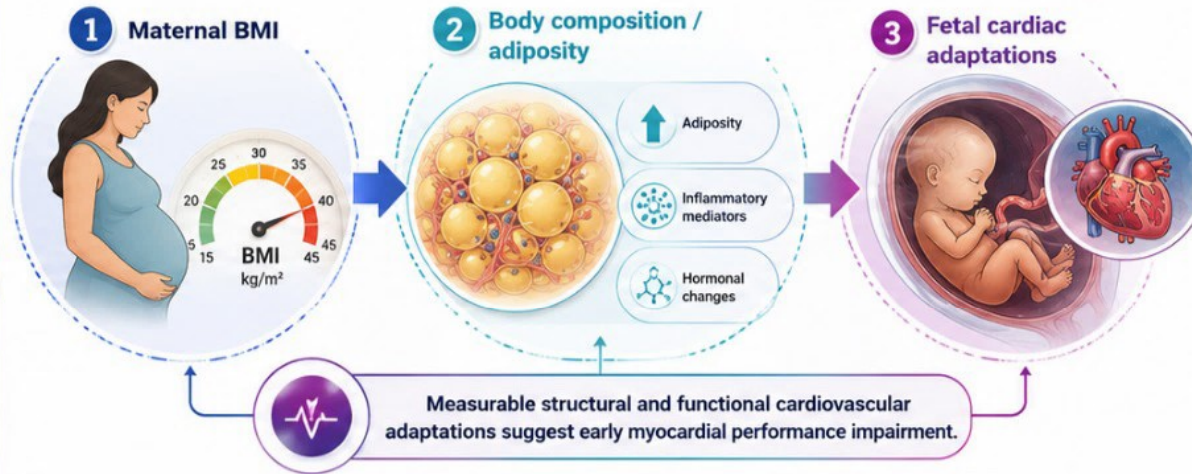
To assess the effect of maternal body mass index (BMI) on fetal cardiac structure and function.

METHODS

- Prospective study.
- 99 singleton pregnancies examined between 24 and 28 weeks' gestation.
- Ultrasound assessment performed using a Samsung HERA Z20 system.
- Maternal BMI and body composition recorded using JAWEST intelligent scales.
- Fetal cardiac parameters evaluated: interventricular septal thickness, sphericity index, TEI index, Simpson ejection fraction, stroke volume, and McGoon index.
- All parameters were obtained during the same examination period and analyzed according to maternal BMI.

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KEY RESULTS

Interventricular septal thickness increased	p = 0.0001
Left ventricular sphericity index increased	p = 0.03
Right ventricular sphericity index increased	p = 0.03
TEI index increased	p = 0.03
Simpson ejection fraction decreased	p = 0.049
Stroke volume decreased	p = 0.001
McGoon index unaffected by BMI	p = 0.368

Increasing maternal BMI is associated with altered ventricular geometry and subclinical myocardial dysfunction in fetuses of overweight and obese mothers.



CONCLUSION

Maternal BMI significantly influences fetal cardiac morphology and function at mid-gestation. Increased maternal BMI is associated with septal thickening, altered ventricular geometry, and subclinical myocardial dysfunction. Mid-pregnancy echocardiographic evaluation may help identify early intrauterine cardiovascular remodeling in fetuses exposed to maternal overweight and obesity.

