

EP08.69. Manual free-hand method vs. Artificial Intelligence: comparison of the accuracy of estimated fetal weight ultrasound measurements in term pregnancy

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Objectives: In modern ultrasound machines used in prenatal diagnostics the influence of artificial intelligence is becoming more and more significant. Antenatal fetal weight estimation is a basic component of routine examination that influences perinatal care. The aim of this study is to compare EFW values measured and adjusted manually during a free-hand examination with those obtained by the use of AI biometrical tool SonoLyst Live by GE.

Methods: The study was conducted in the Obstetrics and Gynecology Department in Regional Hospital in Kielce from February to August 2024. 46 patients in singleton pregnancy from 37 to 41 weeks were examined. 43 of them were included into the study. Only one ultrasound practitioner that routinely performs prenatal screening estimated fetal weight during free-hand examination 1 to 7 days before delivery. The AI biometrical tool used for fetal weight estimation was SonoLyst Live software designed for GE Voluson Expert22. For the statistical analysis RStudio software was used.

Results: The study showed that manually adjusted fetal weight measurements were more precise than those taken with the use of AI tool. On the same time, both methods underreported fetal weight. On average, manual method underreported results by 115 grams, whereas SonoLyst Live by 208 grams. The correlation between EFW measured manually and birth weight was stronger than in reference to automatic measurements with the use of AI software (Table 1).

Table 1. Pearson correlation coefficient between measurements		Method	R	Lower CI	Upper CI
		Manual	0,78	0,621	0,877
		AI	0,684	0,477	0,82

Conclusions: Manual free-hand fetal weight estimation in term pregnancy is more accurate comparing to the use of artificial intelligence software SonoLyst Live by GE. This yields the need for human supervision of AI diagnostic tools.