

Use of the computer for interpretation of fetal heart tracings.

[Abduljabbar HS](#), [Ibrahim Y](#), [Elahi TF](#), [Tawfiq AK](#), [Khoja M](#).

Department of Obstetrics and Gynaecology, King Abdulaziz University, College of Medicine, Jeddah, Saudi Arabia.

Abstract

OBJECTIVE: To compare the interpretations of antepartum fetal heart tracing by computer and by three experts.

METHOD: One hundred and forty-eight patients with high risk pregnancies were included. Their fetal heart tracing was interpreted by each of the three experts and the computer. The interpretation of whether it was reactive or nonreactive, by each of the experts with that of the computer controlling for the outcome, were cross-tabulated using the chi 2-test with a control variable. To define the abnormal outcome the odds ratio and 95% confidence interval were used.

RESULTS: The computer defined 14 tracings as nonreactive and the experts, respectively, 19, 18 and 17. The gestation age ranged from 34 to 42 weeks with a mean of 38.26 and standard deviation of 2.31. The common reasons for monitoring were diabetes (20.9%), hypertension (20.3%) and post-date (11.9%). Out of 148, 16 had an abnormal fetal outcome. There were no statistically significant differences between any of the experts and the computer in determining the normal outcome. However, to determine the abnormal outcome, there was a statistically significant difference between two of the experts and the computer with $P < 0.025$. It was found that the computer was superior to any of the experts in defining the abnormal outcome with an odds ratio of 55.9 and experts odds ratio and 95% computer interpretation were 1.6 (0.4-6.5), 1.0 (0.2-4.9) and 1.1 (0.2-5.3), respectively.

CONCLUSION: There was no difference between the experts and the computer in defining the normal outcome, but it appears that the computer was better in defining the abnormal outcome