

P143. LIPEMIA INTERFERENCE ON ETHANOL ASSAY

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Lipemic specimens are common and frequent, but yet unresolved problem in clinical chemistry, and may produce significant interferences in the analytical results of different biochemical parameters. The aim of this study was to examine the effect of lipid on ethanol assay.

In this study, ethanol calibrator (92.7mg/dL) was used to prepare 10 and 40 mg/dL concentration ethanol containing samples. 10 ethanol-free normal patients' serum were pooled and used for providing similar matrix. Lipemic samples were prepared by adding 5 levels (0, 250, 500, 750, 1000 mg/Dl) intralipid (%20) (Baxter, Deerfield, IL).

The analytes were then measured on Siemens Advia 2400 and the change of the analyte concentrations was compared with baseline samples.

It has been shown to vary that about 10 mg/dL ethanol at 5 lipemia levels 10.4, 10.7, 9.2, 9.3, 8.2 respectively. (according to the first reading percent differences are 3.88, -11.6, -10.6, -21.2 respectively). It has been shown to vary that about 40 mg/dL ethanol at 5 lipemia levels 41.3, 41.9, 40.3, 39.9, 39.1 respectively (according to the first reading percent differences are 1.45, -2.43, -3.4, -5.4 respectively).

Most methodologies used on the oto-analyzer appeared to be subject to statistically significant interference from lipemia when evaluated by standard statistical methods, but these do not consider the analytical imprecision of assays. The higher percentage change in the low concentration of ethanol, may be associated with the analytical sensitivity.

This study has useful information on ethanol interference by lipemia but it should be noted that the in vitro results may not completely support what would happen in vivo.

Lipemic samples should be carefully considered for medico-legal cases.

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