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P154. MEASUREMENT UNCERTAINITY IN VALPROIC ACID CONCENTRATIONS

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According to ISO uncertainity is a parameter associated with the result of measurement that characterizes the dispersion of the values that could reasonably be attributed to the measurand. The aim of this study is to calculate measurement uncertainty of valproic acid by using internal quality control data and inter laboratory results to compare these calculated measurement uncertainties with total allowable error % (TEa %) value of CLIA'88.

Between October 2015 and March 2016, the internal quality control datas were screened. The estimation of valproic acid measurement uncertainity was calculated according to ISO21748 guide. Inter laboratory comparison was executed to estimate bias. Valproic acid levels were determined using the immunoturbidimetric method on the Roche Cobas Integra 800 analyzer.

Coefficient variations (CV) calculated from internal quality control analyses were 2.12, 2.46 and 3.01 at low, normal and high level of internal quality control sera values respectively. Total allowable error value of valproic acid was 9.94% and was not higher than desirable TEa% values of CLIA'88.

Valproic acid is a widely-used first-generation antiepileptic drug, therapeutic range between 50-100 µg/mL, prescribed predominantly in migraine prophylaxis, epilepsy and psychiatric disorders. Careful clinical monitoring should be performed during the first 6 months of therapy with valproic acid. For this purpose, using uncertainty value is a good practice to interpret of patient result.

Laboratories should calculate measurement uncertainity and evaluate results according to spesific criterias.

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