



A comparative study of hemoglobin estimated by the traditional (Who) technique and chemiluminescence method

Al-Hashimi, H. A.; Mohamed, H. F.; Lazim, K.S.

Abstract

[en] The addition of hemoglobin (Hb) caused an inhibitory effect on the luminol-dependent chemiluminescence of luminol by the oxidative metabolic, hydrogen peroxide, in a cell free sensitive photon counting system designed and built in the department of physiology, The inhibitory effect produced by various Hb levels was dose dependent, reproducible and linear with an $r=0.997$. Hb concentration curves constructed by CL and standard Cyanmethaemoglobin (HiCN) methods were parallel. A comparison between the inhibited CL (area under the curves), and the optical density (HiCN method) produced by same Hb levels was linear with $r=0.990$. There was no significant difference ($0.1 > P < 0.5$) between Hb level measured by CL and HiCN method in healthy adults samples. A point of importance, turbidity due to high leukocytes count (250×10^9 C/L) has no significant effect on Hb levels measured by CL and the modified HiCN methods. These results suggest that, CL method may provide an additional reliable method for Hb estimation. (authors)

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