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Measurement of serum EGF levels, a methodological approach: Learning what means low-/high concentration of EGF in serum - Clinical implications**Idania González Pérez**

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Background: Although the contribution of platelets to the measured serum epidermal growth factor (EGF) concentrations ([sEGF]) was reported since 1983, most of reports in healthy donors or patients do not control clotting times. This results in a variation of the notified values, additionally to that caused by the functional polymorphism of the gene. Both issues platelets and SNP make the conventional stratification by absolute sEGF levels not suitable. Within this study we evaluated the [sEGF] in 105 healthy Cuban donors, balanced by gender and age (18-78 years). As a result, a new methodology of stratification of individuals was proposed.

Methods: Sera were collected at two clotting times: 1h and 4h. Comparisons between groups by [sEGF] were carried out. The estimations normalized through the calculation of its ratios $r = \frac{[EGF]_{1h}}{[EGF]_{4h}}$ were used for the stratification.

Results: Differences were found by age ([EGF]4h, $p=0.0083$) and gender ([EGF]1h, $p=0.0167$), and between [EGF]1h and [EGF]4h ($p<0.0001$). While 38 out of 105 individuals ranked different in 1h and 4h conventional stratifications, the methodology using ratios yielded a unique score for each individual.

Conclusions: The proposed methodology of stratification by ratios, in contrast to the conventional approach, allows for a proper comparison between EGF levels and individuals. Thus, it should have an impact on diseases for which the association of EGF with the illness has been established, aiding to clarify the connection of the molecule with the disease. This work might be of value to clinicians, scientists, and the healthcare community in general, conducting research regarding the role of EGF as a biomarker.

Biography

Idania González Pérez has completed her BSc in Physics from the Faculty of Physics, Moscow State University, Russia (1985-1990) and Master of Science in Physics and Mathematics from Faculty of Physics, Moscow State University, Russia. She is now involved in a PhD program at the University School of Medicine in Havana. She is a Senior Researcher at the Center for Molecular Immunology in Havana, Systems Biology Department, Biomarkers Group. She has published more than 15 papers in reputed journals and has been serving as a Reviewer in Medical Science Monitor, Journal of Hospital and Clinical Pharmacy and International Blood Research & Reviews.

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