[Agreement between two devices for measuring exhaled nitric oxide.]

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Author: SardÃ³n Prado O.
Aldasoro Ruiz A.
Korta Murua J.
Mintegui Aramburu J.
Emparanza Knorr J I
PÃ©rez-Yarza E G

Author Affiliation: Unidad de NeumologÃa Infantil. Servicio de PediatrÃa. Hospital de Donostia. San SebastiÃ¡n. EspaÃ±a. osardon@euskalnet.net.

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Abstract: BACKGROUND: Measurement of fractional exhaled nitric oxide (FENO) is a non-invasive marker of eosinophilic airway inflammation that can be useful in asthma diagnosis and control, as well as in treatment monitoring. OBJECTIVE: We studied the correlation between two techniques for measuring FENO: the chemiluminescence-based analyzer (NIOX(R), Aerocrine, Sweden) and a new portable electrochemical sensor-based analyzer (NIOX-MINO(R), Aerocrine). MATERIAL AND METHODS: FENO was measured by the single breath on-line method. In all children, three consecutives measurements were obtained with NIOX(R), with a maximum of six attempts, and the arithmetic mean was calculated. Next, using NIOX-MINO(R), a single measurement was made successively in each of the children. The variables analyzed were sex, age, height, weight, diagnosis, treatment, NIOX-MINO(R) value, mean of three values obtained with NIOX(R) and the NO elimination rate (nL/min). For the statistical analysis, the Bland-Altman plot was used to compare the means and the differences between measurements of FENO from NIOX(R) and NIOX-MINO(R). The agreement between the two analyzers was estimated by Cohen's Kappa statistic. RESULTS: Thirty children were included, 14 (46.67 %) boys and 16 (53.33 %) girls. The mean age was 11.3 +/- 3.09 years. All of the children successfully performed the measurements with two analyzers. The relationship between the means and the differences in the values obtained with NIOX-MINO(R) and NIOX(R) were statistically significant (p

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