

Reproducibility of eNO measurements in children using a hand-held analyser

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Background

Exhaled nitric oxide (eNO) is a well documented and validated biomarker of bronchial inflammation using stationary analysers. A new hand-held eNO analyser was recently commercialized (Niox Mino®, Aerocrine, Sweden) and despite being an attractive tool, its reproducibility is not well documented in children.

Aim

To study the reproducibility of eNO using a hand-held analyser, Niox Mino®, Aerocrine.

Methods

During a field study on the impact of air pollution on bronchial inflammation in wheezing schoolchildren, some patients were asked to perform eNO measurements in two consecutive days using Niox Mino®. All of them had a past clinical history of wheezing in the last 12 months. For those who were under asthma regular treatment, medication was stopped three weeks before. Reproducibility was analysed using the Bland and Altman method.



Results

• 9 females and 6 males (mean age of 7.2 ± 0.75 years)

• eNO median value:

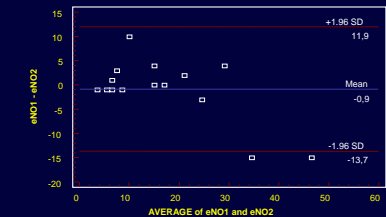
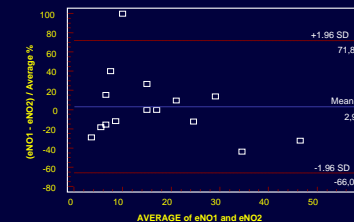
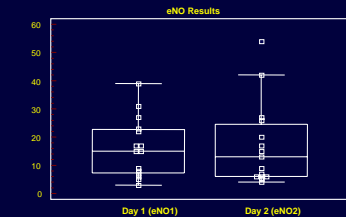
Day 1: 15ppb

Day 2: 13ppb

• Mean difference for the two measurements: - 0.9 (range: -13.7 to +11.9)

• No statistically difference between the two measurements ($p=0.94$)

• Two outliers were found



Conclusion

Niox Mino® eNO measurement was reproducible in this group of patients.

