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**Title:** Exhaled nitric oxide and the therapeutic regimens in childhood asthma

Dr. Radu 14714 Diaconu raduteodiaconu@yahoo.com MD <sup>1</sup>, Dr. Ligia 14715 Stanescu ligstanescu@yahoo.com MD <sup>1</sup>, Dr. Carmen 14716 Diaconu carmendiaconu2000@yahoo.com MD <sup>2</sup> and Dr. Gigi 14717 Calin gigicalin@yahoo.com MD <sup>1</sup>. <sup>1</sup> Pediatrics, University of Medicine and Pharmacy, Craiova, Dolj, Romania, 200349 and <sup>2</sup> Sports Medicine, Emergency Clinical Hospital, Craiova, Dolj, Romania, 200642 .

**Body:** Introduction. The exhaled nitric oxide (FeNO) is used as a marker of airways inflammation in asthma management. We intended to evaluate the impact of the various therapeutic regimens in FeNO levels in children with asthma. Methods. We enrolled 87 asthmatic children (52 male) aged 5-12, admitted to our Pediatric Department from January to December 2012. 25 cases received inhaled corticosteroids (ICS), 54 - motelukast (M) and 8 children received both (ICS + M). We measured the FeNO levels at admission (before the treatment) and after 3 months of therapy. The children and the parents also completed the Childhood Asthma Control Test (cACT). The statistical analysis was done using the chi square and Fisher exact tests. Results. 71 children reported improvement in cACT scores and 47 had amelioration in FeNO levels. 30 group M cases had an improvement in FeNO levels vs 15 in group ICS: p = 0.35, OR = 0.83 (0.31-2.18). FeNO also improved in 7 children in group ICS +M, p = 0.04, OR = 0.18 (0.007-1.29) vs. M group, and respectively p = 0.09, OR = 0.22 (0.008 - 1.76) vs. ICS group. Conclusions. FeNO levels poorly correlate to the therapeutic regimens in asthma. The mixed therapy (ICS and M) seemed to improve the FeNO levels versus the single controller therapy. We found no relationship between asthma control (cACT) and FeNO levels.