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Title: Nitric oxide (NO) in exhaled breath helps to distinguish the origin of lung infiltrate

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Body: Introduction. Determination of pulmonary infiltrates is necessary not only to evaluate the general condition of a patient, but also to determine needs and duration of antibiotic therapy. Well-recognized methods of diagnosis (physical examination, blood tests and x-rays) are not enough helpful in determination of the pulmonary infiltrate's origin. Objective. To distinguish the origin of lung infiltrate using NO in the exhaled breath. Materials and methods. Prospective non-randomized study was carried out in the Centre of pulmonology and allergology, Paul Stradins Clinical University Hospital, Riga, Latvia. The study is approved by Riga Stradins University Ethics Committee. Patients with lung infiltrate of inflammatory (due to pneumonia) and congestion (heart failure) origin were involved into the study. Community-acquired Pneumonia(CAP) was confirmed in 6 (from 10) patients. Heart failure (HF) with small blood circuit congestion and lung infiltration was confirmed in 4 patients. Exhaled NO, X-Ray, clinical pattern were processed. The NO level was measured by chemiluminescence's analyzer (Aerocrine). The data were processed under SPSS 20.0 for Mac. Results. CAP patients (n=6) demonstrated 24,67 ppb. HF patients (n=4) demonstrated 3,65 ppb (p<0.05). Normal range for exhaled NO is less than 4 ppb. Conclusion. The data show that there is increased NO production in pneumonia patient. The lung infiltrate origin might be evaluated using NO in the exhaled breath.