

## Legionella epidemic in Ekaterinburg region in Russia: Experience and lessons

Alexander Chuchalin

Pulmonology Research Institute, Russia

**Aim:** Presentation of the unique results of *Legionella pneumophila* outbreak due to violation of hot water supply quality standards in VerhnayaPyshma (Ural Region, Russia).

**Methods and Results:** The probability of *Legionella pneumophila* infection was based on clinical and radiological data during the period of the increased pneumonia incidence rate and confirmed etiologically in 3 days. *Legionella pneumophila*, sg1 was verified according to WHO recommendations and detected during autopsy in lung and bronchial tissues of 1/3 of patients, DNA by PCR - in 42 patients, specific IgM and IgG - in 23 and 14 patients correspondently, specific soluble antigen *L. pneumophila*, sg1 by quantitative or immunoassay analysis in urine of 36 patients. Among 197 hospitalized patients *L. pneumophila* pneumonia was diagnosed in 62 (age 55.3 years). Concomitant CVD, diabetes, myocarditis and nephritis were also found in this category of patients. From 61 patients with *L. pneumophila*, sg 1 pneumonia patients 32 (52, 5%) were severe, 14 (23,0%) – very severe (IDSA/ATS, 2007). Symptoms appeared 5, 3 [4,5–6,0] days prior to hospitalization and antibiotic treatment course was conducted during 7-14 days. Fever duration was 5.9 (3.9-7.9) days, bilateral lung lesion detected in 18 patients, average hospital stay - 11.3 (9.6-12.9) days, average admission to ICU was 3.8 (2.7-5.0) days, hypoxemic respiratory failure diagnosed in 44 patients (72.1%) and 4 patients died (6.6%). In very severe patients average term of pulmonary lesion resolving was 32.2 days, whereas it was 1.7 (p<0.03) and 1.4 shorter correspondently in moderate and severe disease.

**Conclusion:** Obtained results demonstrate a unique experience and algorithm on detection, management and follow-up of patients during *Legionella* infection outbreak.

### Biography

Alexander Chuchalin graduated from 2<sup>nd</sup> Moscow Medical Institute in 1963 after which he was trained in clinical residency on internal diseases at the same institute. Since 1976 he is Head of the Department of Hospital Therapy of the 2<sup>nd</sup> Moscow Medical Institute and in 1991 he became Director of Pulmonology Research Institute in Moscow. His major fields of interest include diagnostic and management approaches in lung diseases, therapeutic aspects of lung transplantation etc. He is a member of the Executive Committee of the Global Alliance on Lung Diseases and editorial board member of different peer reviewed journals.

chuchalin@inbox.ru