

# "Inhaled colistin in treatment of chronic colonization *Pseudomonas aeruginosa* in patients with non-cystic fibrosis bronchiectasis or chronic obstructive pulmonary disease"

B.C. López Virtanen, S. Vázquez Troche, J.A. Valdueza Beneitez, B. De la Nogal Fernández, M. Noguerol Cal, M. Rodríguez María. (Hospital el Bierzo, Pharmacy Hospital, Ponferrada, Spain).

## Background



- ❖ **Chronic bronchial infection with *Pseudomonas aeruginosa*** in patients with **non-cystic fibrosis (CF) bronchiectasis/chronic obstructive pulmonary disease (COPD)** is related to worsening lung function and increased morbidity and mortality.
- ❖ **Inhaled antibiotics** represent an effective therapeutic approach for these diseases.

## Purpose



To **evaluate the use** of inhaled colistin in treatment of chronic colonization with *Pseudomonas aeruginosa* in patients with non-CF bronchiectasis/COPD.

## Materials and Methods



- ❖ **Retrospective study** of patients with COPD/non-CF bronchiectasis colonized with *Pseudomonas aeruginosa* **treated with inhaled colistin for at least three months** from January 2008 to April 2012.
- ❖ **Data collected:** sex, age, diagnosis, duration of the treatment, disease-related hospitalization pre and post-treatment, sputum cultures, clinical evolution.

## Results

5 patients (3 non-CF bronchiectasis / 2 with COPD)	6 treatment episodes (1 patient received 2 treatment courses)
<ul style="list-style-type: none"> <li>• Treatment duration was 27.6 months (range 4-48).</li> <li>• Average cost per patient 13.896 € (range 2.950-25.888€).</li> </ul>	
<ul style="list-style-type: none"> <li>• In 5 episodes, treatment was initiated after <math>\geq 4</math> consecutive sputum cultures positive for <i>Pseudomonas</i> resistant to tobramycin / ciprofloxacin.</li> <li>• <b>Sputum <i>Pseudomonas</i> eradication</b> (3 consecutive negative sputum) was reported in 2 patients, continued treatment, which was an unnecessary costs of 15.500 € (22% of total costs).</li> </ul>	
<ul style="list-style-type: none"> <li>• The <b>number of disease-related hospitalization/month is similar</b> in the pre and post-treatment (0.25 vs 0.26).</li> <li>• In 2 episodes (one with eradication) occurred <b>clinical improvement</b> (reduction in cough and expectoration).</li> <li>• The <b>microbiological response</b> (negative results on sputum) and the <b>clinical response</b> (reducing cough and sputum purulence) <b>is moderate</b> (2 of 6 episodes).</li> </ul>	
<ul style="list-style-type: none"> <li>• In <b>no case</b> was developed <b>resistance to colistin</b>.</li> <li>• 3 patients died from their bronchial disease.</li> </ul>	

## Conclusions



➤ In most episodes **initial prescription is correct** ( $\geq 3$  consecutive sputum cultures positive).



➤ In patients with *Pseudomonas* eradication, therapy was continued, therefore **sputum cultures should be monitored more frequently**.

➤ **No effective treatment** is observed.