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Title: Nebulised colistimethate sodium improves quality of life in patients with bronchiectasis colonised by pseudomonas aeruginosa

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Body: Pseudomonas aeruginosa (P. aeruginosa) colonisation has a negative quality of life (QoL) impact in patients with bronchiectasis. ¹ To date there is little published work on the long term effects of inhaled antibiotics on QoL in this population. We conducted a randomised, double-blind, controlled study to investigate the efficacy of ≤6 months nebulised CMS in patients with non-cystic fibrosis bronchiectasis colonised by susceptible P. aeruginosa [ISRCTN49790596]. Patients self-administered CMS (Promixin; 1 MIU/mL) or placebo (0.45% saline), twice daily via an I-neb AAD System. Here we report QoL results, measured with St. George's Respiratory Questionnaire (SGRQ). SGRQ assesses QoL across 3 domains (symptoms, activity, impact) and was administered at weeks 0, 12, and 26. Patients with <80% compliance were excluded from analysis, leaving: n=54 (weeks 0 & 12); n=31 (week 26), for each arm. Total mean % SGRQ (Table 1), and mean changes from baseline per SGRQ domain (Table 2) are reported.

Table 1. Mean SGRQ (%).

	Week 0	Week 12	Week 26
CMS	54.2	52.0	40.6
Placebo	56.3	53.7	54.4

Table 2. Mean Δ baseline (%).

SGRQ domain	CMS		Placebo	
	Week 12	Week 26	Week 12	Week 26

Symptoms	-8.6	-22.3	-4.8	-5.8
Activity	0.2	-3.8	-3.8	-0.1
Impact	-1.6	-10.1	-1.3	2.1

The significant QoL improvement with CMS, compared with placebo ($p=0.018$), was primarily due to significant improvements in symptoms ($p=0.001$) and impact ($p=0.008$) domains. These results indicate that patients with bronchiectasis colonised by *P. aeruginosa* benefit from dramatic improvements in QoL when treated with CMS delivered via the I-neb AAD System. 1. Wilson et al. Eur Respir J. 1997;10:1754-1760.