

CORRESPONDENCE

Long-term lung function in postinfectious bronchiolitis obliterans

We read with great interest the paper by Colom *et al*¹ on pulmonary function of a paediatric cohort of patients with postinfectious bronchiolitis obliterans (BO). The authors concluded that pulmonary function remained severely impaired, showing an obstructive pattern with air trapping that slowly improved during childhood. In addition, they showed that nine (19%) patients developed thoracic deformity and seven (15.2%) bronchiectasis. On the first view, contrary to their findings, the FVC and FEV₁ increased by a mean of 11%/year (95% CI 9.3% to 12.6%; $p < 0.0001$) and 9%/year (95% CI 7.7% to 10.2%; $p < 0.0001$) during childhood. This is quite difficult to understand since the authors did report the increase in lung volume in per cent only, but not in litre (L). Still, their findings are in good accordance with our findings in BO.

We have recently characterised a cohort of 16 patients with BO aged median 13.3 \pm 4.6 years and measured their lung function prospectively over 24 months by 48 plethysmographies (three measurements in each patient). Of these patients, nine were in the period of growth.

Our data confirmed that BO patients had significantly lower lung function (FVC, FEV₁, FEV₁/VC, MEF25 and increased residual volume (RV) and RV/TLC (total lung capacity) values) as age-matched controls.

Table 1 Lung function of growing patients with BO (n=9)

	Initial presentation	Follow-up 12 month	Follow-up 24 months	Delta change
Age (years)	10.9	11.9	12.9	2
Length	143.3	148.6	153.0	9.7
FVC (%)	77.61	81.38	79.69	2.08
FVC (L)	2.01	2.31	2.39	0.38
FEV ₁ (%)	65.86	69.21	65.19	-0.67
FEV ₁ (L)	1.43	1.62	1.65	0.22
FEV ₁ /VC	70.17	70.78	67.80	-2.37
RV (%)	162.98	220.31	173.71	10.72
RV/TLC	42.07	46.26	40.42	-1.65

Data are shown as mean.

BO, bronchiolitis obliterans; RV, residual volume; TLC, total lung capacity; VC, vital capacity.

As shown in table 1, lung function of patients during growth period remained stable when expressed as predicted level of normal. But there was a significant increase in lung growth by a mean of FVC 0.3 L (14.1%) and FEV₁ 0.19 L (13.3%) in the first year and FVC 0.08 L (3.98%) and FEV₁ 0.03 L (2.09%) in the second year indicating that lung growth is clearly related to growth velocity. Therefore, to avoid misunderstanding, lung growth should not be expressed as mean increase per year during childhood as done in the abstract.

Martin Rosewich, Jonas Eckrich, Stefan Zielen

Department of Allergy, Pulmonology and Cystic Fibrosis, Children's Hospital, Goethe-University, Frankfurt am Main, Germany

Correspondence to Dr Martin Rosewich, Department of Allergy, Pulmonology and Cystic Fibrosis, Children's Hospital, Goethe-University, Theodor-Stern-Kai 7, 60590 Frankfurt am Main, Germany; Martin. Rosewich@kgu.de

Contributors All authors did substantial contributions to the conception of the work, took part in the acquisition, analysis and interpretation of data. They drafted the work and did the final approval. The authors are accountable for all aspects of the work.

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REFERENCE

- Colom AJ, Maffey A, Bournissen FG, *et al*. Pulmonary function of a paediatric cohort of patients with postinfectious bronchiolitis obliterans. A long term follow-up. *Thorax* 2015;70:169–74.