

[P4113] Improved pulmonary function and increased sputum expectoration in CF patients after additional training with SpiroTiger® compared to supervised conventional physiotherapy alone

Marcus Pause,¹ Wolfgang E. Kamin.¹ *¹Pediatrics Pneumology, University of Mainz, Mainz, Germany*

Background:

SpiroTiger® has been used in sports to train breathing muscles and improve pulmonary function. We measured the effects of SpiroTiger training compared with conventional physiotherapy in CF patients on pulmonary function and sputum expectoration.

Methods:

This open crossover study included 27 CF patients. Expectored sputum (g) was quantified daily, pulmonary function (FEV1, MEF50 %, VC) tested at 0, 4, and 8 weeks. Patients were randomly assigned to either conventional physiotherapy alone or to conventional physiotherapy combined with SpiroTiger training (10 minutes twice daily). Groups switched over after 4 weeks of treatment.

Results:

After training with SpiroTiger, FEV1 increased 13 %, MEF50 % 11 %, and VC 8 %, compared to conventional physiotherapy alone.

Average daily sputum was 12.2 g (Range 0 – 68g) with conventional physiotherapy and 16.1 g (Range 0 – 102 g) with added SpiroTiger training. In 14 of the 21 patients with significant expectoration at baseline (Mean 20,0 g; Range 2 - 68 g), expectored sputum amount increased by an average of 133 % (Range 2 – 102 g)

Conclusions:

Compared to conventional physiotherapy alone, added training with SpiroTiger improved pulmonary function in more than 50 % of CF patients significantly. The amount of sputum expectored per day increased markedly in patients with a significant amount of expectoration at baseline. Almost all patients experienced an increase in physical fitness. Added training with SpiroTiger had a beneficial effect on pulmonary function and expectoration in CF patients.

Date: Tuesday, September 5, 2006

Session Info: Thematic Poster Session: From genes to outcome: a long distance