Quality of life improvement after bronchial thermoplasty in Thai severe asthma patients

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Background

Asthma accounts for 7% of Thai population and 3-5% of asthmatics are categorized as severe[1]. Severe asthma patients usually have airway remodeling. To date, there is no effective medication that reduce airway remodeling. Therefore, these patients suffer from frequent exacerbation, missing daily work and poor quality of life. Bronchial thermoplasty (BT) has been showed to reduce airway remodeling and effectively reduce exacerbation in many countries. However, there is no report regarding quality of life after BT in Thai severe asthmatics.

Objectives

To report the quality of life of severe asthmatic patients who underwent bronchial thermoplasty in Thailand.

Methods

This is a prospective study collecting data from June 2017 to July 2019. All patients undergoing BT were followed for at least 6 months. Demographic data, asthma quality of life questionnaire (AQLQ) and asthma control test (ACT) were collected at prior to BT and 6 months after. The AQLQ were collected into 4 categories including symptoms, activities, emotions environment and overall quality of life. The demographic data AQLQ, and ACT were analyzed by using descriptive statistics with mean and standard deviation (SD). The paired T test was used to compare the parameter difference before and after BT.

Results

There were 20 severe asthma patients undergoing BT during studying period. The mean age was 53 years. 14 patients were female. The mean FEV1/FVC was 61.31. Mean age of asthma onset was 20 with 6 exacerbation in the previous year. The demographic data was shown in Table1. The asthma control test score was statistically improved from13.14 to 19.5 at 6 months (P=0.001) (Figure1).

Table1: Demographic data (N=20)

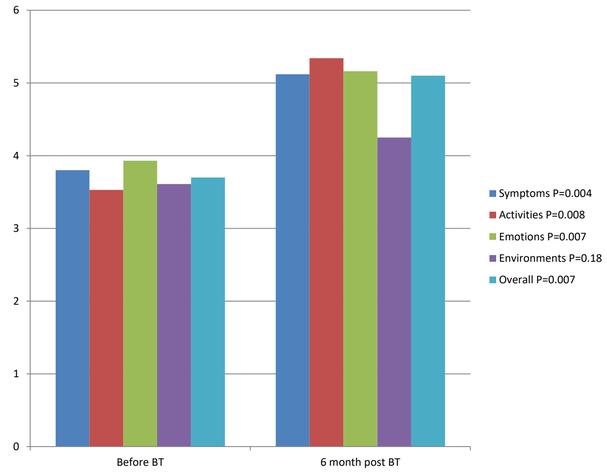
	Mean
Age	53
Female	14
Age of asthma onset	20
Total exacerbation in previous year	6.0
ER visit in previous year	5.2
Hospitalization in previous year	4.1

Figure1: ACT before and 6 month after BT

Results

The overall AQLQ was statistically improved from 3.7 (2.56-4.84) to 5.1(3.91-6.29) (P=0.007).The symptoms, activities, emotions and environment AQLQ score before BT and 6 months after BT were shown in figure2. There was a statistical significant in all categories except environment category (P=0.004, 0.008, 0.007, and 0.18 respectively).

Figure2: AQLQ before BT and 6 month after BT



Discussion

This is a first report of quality of life in severe Thai asthmatics who undergone BT. The ACT statistically improved from 13.14 to 19.5 (P value 0.001) representing better asthma control. The AQLQ statistically improved from 3.7 to 5.1 (P value 0.007). All AQLQ categories improved statistically except environmental category.

Discussion

This can be explained by serious environmental air pollution in Thailand. When compared to previous study[2,3], the magnitude of AQLQ improvement in our study is less than previous reports. This results from lack of environmental category improvement and highlight serious environmental pollution in Thailand. Although, the environmental category is not improved, our severe asthmatic patients still benefit from BT.

Conclusion

Bronchial thermoplasty improved asthma control and quality of life in severe Thai asthmatic patients.

Reference

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