The results of the Approbation of the 'BBL' Method in the Department of Children's Diseases in the First Moscow Medical Institute of E. M. Sechenov

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The BBL method was tested and approved by the Medical Institute of E. M. Sechenov between February 27, 1981 and May 21, 1981. The method is based on a conscious decrease in deep breathing and specifically designed for patients suffering from bronchial asthma. It is based on the fact that clinical results show improvement proportional to the decrease in lung ventilation.

Clinical Characterisations of Patients with Bronchial Asthma

The experiment was based on patients suffering from regular asthma attacks (once a day or more) during the previous month. Some of the patients had severe asthmatic conditions leading to asphyxia. The purpose of the experiment was to demonstrate the relationship between the major symptoms of the disease (bronchospasm, cough, nasal blockage and so on) and hyper ventilation. The patients were asked to undergo a three stage hyper ventilation test (developed by Professor Buteyko in 1968).

1 The test was conducted in a sitting position. The patients were asked to use the BBL method. Correctly followed instructions yielded the following results:
2 In 1 to 5 minutes there was a decrease or disappearance in the symptoms of asthma: the patients experienced relief from asphyxia, wheezing, cough or rhinitis.
3 The second stage involved a reverse process:
4 The patients were asked to breath deeply for 15 to 60 seconds until the first symptoms of an attack.
5 The patients were asked to repeat the BBL and thus prevent the onset of the attack independently.

If the patients did not understand the relationship between the hyper ventilation and the disease, the test was repeated. The test was not conducted if the patients took a bronchodilator 1.5 to 2 hours prior to the test. Fifty-two patients between the ages of 3 and 15 were treated according to the BBL method: 36 boys (69%) and 16 girls (31%) (qv Table I). Of the 52 children, 34 (65%) were hospitalised, 18 (35%) were outpatients. Twenty-four (46%) had atopic bronchial asthma, 22 (42%) had mixed bronchial asthma and 6 (12%) had bacterial allergy bronchial asthma. The majority of the patients (36) had been suffering from this condition for up to 5 years, 12 for between 6 to 10 years and 4 from 11 to 15 years. The patients were divided into three categories: mild, severe and very severe (qv Table II).

Table I: Age and sex distribution of patients

		Sex		**Age**		
Group	Number	M	F	3 - 5	6 - 10	11 - 15
Hospital	34	24	10	2	18	14
Ambulatory	18	12	6	5	12	1
Total	**52**	**36**	**16**	**7**	**30**	**15**

Table II: Patient distribution according to degree of asthma

		Degree/Duration of Illness					
		Mild		**Severe**		**Very severe**	
Group	Number	Test	%	Test	%	Test	%
Hospital	34	0	0	24	70.6	10	29.4
Ambulatory	18	1	5.5	13	72.2	4	22.0
Total	**52**	**1**	**1.9**	**37**	**71.1**	**14**	**26.9**

According to patients' histories, 41 cases (79%) had pneumonia 1 to 7 times. Four (8%) were taking corticosteroids (prednisolone tablets) prior to the BBL treatment. Six (11%) were physically handicapped, 9 (17%) were obese; all

the children had bad posture. 11 (21.2%) had chest deformity. Most of the children (33 or 64%) had allergic reactions to medication. 34 (65%) allergic reactions to food and 25 (48%) allergic reactions to dust. Twenty-seven (52%) suffered from rhinitis, 18 (34.6%) had Quinke's oedema. 47 (90%) had a predisposition to colds and flu. All had problems with breathing through the nose. 36 (69%) chronic tonsillitis, 11 (21%) sinus problems. 23 (44%) had frequent headaches, all had palpitations and 13 (25%) had unstable body temperature.

Acute periods of their condition were accompanied by the following symptoms: 31 (59%) had sleeping problems, 16 (31%) had loss of appetite and 13 (25%) constipation. Of the 52 children 47 (90%) were regular hospital patients and only 5 (10%) did not require hospitalisation.

Prior to the BBL treatment, all children had antibiotic treatment, all had to use bronchodilators, 37 (71.2%) were using Intal over prolonged periods, 15 (29%) were taking antihistamines. All these treatments were having little effect.
The course of the BBL treatment consisted of a daily training of 40 to 90 minutes exercise in the mornings under the supervision of the specialist: self training included 3 to 5 hours under the supervision of the instructor or the parents. The majority of the children mastered the method in 5 to 10 minutes; they were eager, disciplined and enthusiastic.

After 1 to 5 days of the BBL treatment, the patients were able to stop their asthma attacks, coughs, blocked noses and wheezing. The patients were encouraged to use the BBL method rather than their medication to overcome their attacks. Thirty-eight (73%) discontinued their medication as soon as they commenced the BBL method. Eight (15%) cut down on their medication after 3 to 4 days. Steroid medications however were an exception. They had to be reduced gradually. The patients were allowed to take their medication in conjunction with the treatment, only if they were unable to stop the attack after 10 to 15 minutes with the BBL method. For these cases, medication dosage was reduced by a factor of 2 to 3 and remained sufficient to stop the attack.

The Results of the BBL Method

Fifty-two children were observed for between 29 and 84 days. The results were based on the following criteria:

1 no improvement
2 some improvement (the degree of attacks is lessened together with a considerable reduction in medication).
3 considerable improvement (cessation of the heavy attacks, slight traces of the disease or a total disappearance of the symptoms).

The results are listed in below:

Group	**Considerable Improvement**		**Some Improvement**		**No Change**	**Worse**
Hospital	28	82.4%	6	17.6%	0	0
Ambulatory	15	83.3%	3	16.6%	0	0
Total	**43**	**82.7%**	**9**	**17.3%**	**0**	**0**

Forty-three (83%) of the patients showed considerable improvement and nine (17%) showed some improvement. There were no cases showing no improvement. The average period of hospitalisation was 16 days. All the patients with bronchial asthma (52) improved in the first four days. They could breath freely through the nose and their coughs and wheezing disappeared. Fifteen experienced 'sanogenes' (self-cleansing) reactions, manifesting themselves through nervous excitement, chills, raised temperatures (up to 39°), headaches, muscular pains, intestinal pains, chest pains, weakness and hypersecretion of mucus.

Some experienced appetite loss, nausea. vomiting, thirst, excessive salivation (smelling of their medication) and increased urination and defecation. These reactions lasted from a few hours to two days and happened 2 to 3 times. The time in the condition of the patient was relative to the length of the controlled pause. (The control pause is a measure of the concentration of carbon dioxide in the alveolar sacs. Clinically defined as the length of lime for which a patient is comfortable after a normal exhalation through the nose.)

The clinical observations of the dynamics and the functions of the bronchi were researched simultaneously (using Tiffno tests and Rait scale). All the patients showed the following results during the first fourteen days of the BBL treatment.

As the control pause increased from 10 to 40 seconds, so did the concentrations of immunoglobins A, M, G & E. Forced expiration volume (Rait's measuring scale) was raised from 36.7 to 173.2 (qv Table IV). The acid-alkali balance of the blood normalised (it became less basic), the pCO2 of the arterial blood increased from 24.6 to 36.3 mmHg. Control pause increased from 3.9 to ± 0.3 seconds to 31.4 ± 4.7 seconds (qv Table V).

Table IV: Change in lung capacity with the BBL treatment

State of Illness	**Number**	**Start Point**	**40 min**	**7 Days**	**14 Days**	**30 Days**
Severe	14	37 ± 8	92 ± 11	117 ± 15	159 ± 16	-
Average	26	76 ± 8	121 ± 8	161 ± 18	173 ± 10	139 ± 9

Table V: Change in control pause with the BBL treatment

State of Illness	**Number**	**Start Point**	**40 min**	**7 Days**	**14 Days**	**30 Days**
Severe	14	2.9 ± 0.3	12.4 ± 1.4	28.0 ± 4.9	24.5 ± 4.5	31.4 ± 4.7
Average	26	5.4 ± 0.7	12.5 ± 1.8	24.0 ± 3.9	28.3 ± 6.4	31.4 ± 4.7

Patients with severe cases of asthma increased their lung capacities by 27%; the allergic resistance increased by 33% (qv Table VI).

Table VI: Change in allergic resistance (AR), expiration speed (ES) and lung capacity (LC) with the BBL treatment

		Time					
		Start			**14 Days**		
State of Illness	Number	LC	AR	ES	LC	AE	ES
Severe	8	39.2	29.4	22.1	66.2	62.0	72.3
Average	15	55.3	48.0	51.0	80.0	78.3	85.3

Conclusion

1 The BBL method as suggested by Professor Buteyko helps to decrease the number and severity of attacks as well as the dosage of medication.
2 As a result of this therapy, the indicators of acid-alkali balance and lung ventilation improved.
3 The method may be taught to children from 3 years of age up either in hospital or as outpatients.
4 This method is endured by children of any age over 3.

This method is most effective in acute periods of bronchial asthma in very ill patients.