

Epidemiology of Wheezy Bronchitis (Bronchial Asthma) between 1839-1850 in the Poor Children Hospital of Pest (Budapest)

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Received date: Jul 21, 2016; Accepted date: Sep 28, 2016; Published date: Oct 03, 2016

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Abstract

In the first half of the 19th century the "Poor Children Hospital of Pest" was the only children's hospital and outpatient department in Hungary. At that time general pediatric hospitals were only in Paris, St. Petersburg, and Vienna.

Complete medical histories of 5550 outpatients examined between 1839-1850 in the "Poor Children Hospital of Pest" disclosed a diagnosis of bronchial diseases in 323 children. The therapy was: extractum belladonnae and expectorants containing ammonia. The doctors of the hospital were familiar with the techniques of percussion and auscultation. Only 13 children had bronchitis spasmodica. These data suggest that the obstructive disease in children was an existing but very rare entity in the first half of the 19th century.

Keywords: Epidemiology; Bronchial asthma; Historic data

Introduction

Bronchial asthma in the most frequent chronic disease in children at the beginning of the 21st century in Hungary. The disease was not frequent in the 19st century, practically scarcely existing among children. The "Poor Children Hospital of Pest" was the only institution of it's kind of that time in Hungary. The only other children's hospitals in Europe were in Paris, St. Petersburg and Vienna. Complete medical histories of 5050 outpatients examined between 1839 and 1850 in the "Poor Children Hospital of Pest" disclosed that a diagnosis of bronchial disease was made in 323 children (6.4%), 13 (0.26%) of these patients proved to have spasmodic (wheezy) bronchitis. The therapy was: exatractum belladonnae and expectorants containg ammonia. From the personal case histories, it was clear that the doctors of the hospital were familiar with the techinques of percussion (known since 1761) and auscultation (known since 1820). They differentiated between coarse and fine moist rales in the lungs and they heard rhonchi and rales. Schoepf - the director of hospital - gave short single case reports about patients with fever, cough, shortness of breath, auscultation revealed ronchi and rales. He described cases with atelectasis as a consequence of obstruction caused by mucous plugs. The term of asthma was not mentioned because it meant stenosis of the larynx and was never used in the present meaning. These data suggest that wheezy bronchitis (bronchial asthma) in children was an existing but very rare entity at that time.

Basic Question

The question often rises whether asthma has really become more common or is being diagnosed more often. In some countries there is a lot of evidence that the incidence of allergic diseases has risen definitely in the second half of the 20th century [1]. To estimate these data we have to know the prevalence in the previous periods. Very few data are available from the 19th century about the epidemiology of childhood asthma. The I. Department of Paediatrics of Semmelweis University in Budapest still keeps complete medical history of 5050 outpatients who were examined between 1839 and 1850 in the "Poor Children Hospital of Pest" (Figure 1). We studied the occurrence of bronchial diseases in children during that period with the help of these documents. This study gave us a good opportunity to get closer to an answer for the question mentioned before.



Figure 1: The building of "Poor Children Hospital of Pest".

The Short Story of the Hospital

The "Poor Children Hospital of Pest" was founded in 1839 by dr. Schoepf. The "Sankt Anna Kinderspital" in Vienna and two other children's hospitals in Paris and St. Petersburg existed at that time on the whole continent. The hospital in Pest was the only one in Hungary, most of the parents did not pay. If somebody had a house or other properties, he had to pay in the hospital. The rich families kept they children at home and paid for the doctor coming to their home.

Pest and Buda in the first half of the 19th century were separate towns but were developing rapidly and later fused to become the city of Budapest on both sides of the Danube (Table 1).

	Pest	Buda
1841	68.266	38.974
1851	127.935	50.127

Table 1: The number of inhabitants.



The director of the children's hospital during most of the period was dr. Schoepf, who had to emigrate due to his participation in the uprising against the Habsburg emperor in 1848-49. He later settled down in Manchester, England where together with an obstetrician dr. Whitehead he founded a new children's hospital. Dr. Schoepf died in Machester in 1858. Information about his last years and death is available from a contemporary work [2]. In the second part of the period from 1849 the former first assistant Bókai János senior took his place as director in the hospital.

Methods

The study has been done on the following items preserved in the library of the I. Department of Paediatrics of Semmelweis University:

- Record books of the "Poor Children Hospital of Pest"
- from 15.08.1839 to 12.07.1842 (35 months)
- from 13.09.1848 to 15.04.1850 (18 months)
- 5050 patients were examined during the periods
- The works of dr. Schoepf [3,4]:
- Textbook of Paediatrics Volume I (Figure 2).
- Proofs of Volume II. (which was never published, because of the revolution in 1848-1849).

The Record Books

The case histories are written in continuously numbered recordbooks. One page contains data of 4 patients and the records of the control examinations followed on the same page where the original case history is found.

All the records were written in Latin from 1839 till 1842, but later between 1848-1850 the doctors prefered Hungarian language due to the patriotic endeavours. Even the technical terms and diagnoses were written in Hungarian.

The age of the children with "bronchitis spasmodica" was less than 4 years. Nowadays all of them would get the diagnosis "wheezy bronchitis" or "bronchial asthma" (Figure 3).

The drugs given in "spasmodic bronchitis" were: expectorants (kalium ammonium e.g.) and extr. belladonnae

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Figure 3: Medical report of a child suffering from bronchitis spasmodica.

Dr. Schepf's Textbook

In his textbook Schoepf gave short single case reports about patients with fever, cough, shortness of breath; auscultation revealed rhonchi and rales. He described cases with atelectasis as a consequence of obstruction caused by mucous plugs.

The doctors of the hospital were familiar with the techniques of percussion (known since 1761) and auscultation (known since 1820). They differentiated between coarse and fine moist rales in the lungs

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and they heard rhonchi and rales. He also described the features of what now termed bronchiolitis; recognising it to have dyspnoea, cough, secretion of mucus cyanosis in servere cases, accompanied by fine moist rales, rhonchi and wheeze.

The number of upper respiratory diseases was also high. This diagnosis mentions febris catarrhalis, but these date are not included in the paper.

The table shows that lower respiratory diseases were mostly bronchial in origin. At least seven different diagnoses were identified on the basis of physical examination.

Bronchiolitis was diagnosed only during the second part of the period (1848-1850). The diagnosis of wheezy spasmodic bronchitis occurs only in small percentage of the cases, during both parts of the studied period: this disease was called bronchitis spasmodica. Only 13 such cases were recorded during the examination of 5050 outpatients, that is 0.26 percent. Rhonchi, rales and wheezing are mentioned in these case histories. The term asthma meant stenosis of the larynx and was never used it's present meaning. The stenosis of the larynx (laryngismus stridulus) was called Copp or Millar type ofr asthma - according to Schoepf's textbook.

Results

Total number of patients with bronchial disease: 313 (Table 2)

Bronchial disease	Number of patients
br. catarrhalis	78 (24%)
br. acuta	165 (51%)
br. chronica	21 (7%)
br. spasmodica	13 (4%)
broncho-blenorrhoea	4 (1%)
laryngo-tracheo-bronchitis	4 (1%)
bronchiolitis	27 (8%)
others	1 (4%)

Table 2: The distribution of bronchial diseases between 1839-1842 and1848-1850 (among the 5050 patients).

Discussion

It seems likely that there were fewer asthmatic diseases in the 19th century, or at least fewer were diagnosed. One data by Emanual is that according to the Liverpool North Dispensary report of 1833 during the course of one year 43 cases of asthma were diagnosed in adult patients [1].

A work of later origin states that only 19 out of 407 thousand of patients were found to have asthmatic disease in Russia before the First World War [5].

We have surveyed all books in our department's library, written after 1750, which mention bronchial diseases in children.

Rosen von Rosenstein, a Swedish paediatrician, is credited as having written one of the first textbooks of paediatrics published in 1793, this

lists a number of causes of cough, but there is no mention of dyspnoea, nor of asthma [6].

It would seem that the term asthma was used by authors of that period to devote conditions other than those now recognised as asthma. The syndrome caused by the enlargement of the thymus was refered to as asthma thymicum, while the term asthma dyspepticum was used for the deep rapid respiration after severe diarrhoea. Baginsky's book already identified the symptoms of asthma hystericum and asthma uremicum and distinguished them from real asthma.

Bronchial diseases in children began to receive attention from the 1860s. 1300 out of 9000 inpatients were diagnosed to have bronchitis in a children's hospital in Prague [7].

Altough Steffen described asthma accurately, he did not use the term for the syndrome, believing that the inflammation of the bronchial mucosa diagnosed with ronchi and rales was a type of emphysema [8]. Several authors drew attention of asthma to occur at night. Ellis advanced a theory that the nervous system, including the vasomotor nerves became tired at night and the result was dilatation of the arteries, hyperaemia and increased secretion of mucus [5].

Baginsky's textbook published in Berlin in 1889, referred to the rarity of bronchial asthma in childhood. He supposed that its causes were the following: polypi obstructing airflow, chronic rhinopharyngitis and acute swelling of the bronchial mucosa [9]. Henoch in his textbook wrote that childhood asthma was in some measure similar to adult asthma, but that asthma was rare in infants and in small children [10].

The experiences of Hungarian authors can be summarised as follows: our department's library possesses a manuscript of a paediatric textbook of which the first few pages are missing and therefore neither the author nor its title are known. However, a note inside the manuscipt indicates that it was owned by Alex Bíró in 1766, and therefore it must have been written earlier. The unknown author wrote that dyspnoea was caused by thick mucus, which obstructed airflow. He called this syndrome catarrhus suffocativus, noting that infants might die if the mucus accumulated in the bronchi and the disease was associated with spasm.

In a Hungarian textbook it was stated that real bronchial asthma is a rarity in childhood, though it certainly occurs in a form of bronchitis that is very much like asthma, occuring in children who are "exudative, eczemic or neurophatic" (Flesch). The author therefore suggested the term bronchitis asthmatica for denoting this syndrome [11].

Study of the data of past times indicated that asthmatic disease was not commonly recognised in the last century or even in the first part of the 20th century. Many authors did not even know this syndrome and used the word asthma for different diseases. Two lessons can be drawn from our own data:

- The physicians of the "Poor Children Hospital of Pest" knew the ways of physical examination of the lungs could diagnose respiratory diseases, even the wheezy ones.
- Only 13 (0.26%) out of 5050 outpatients of the children's hospital suffered from obstructive (spasmodic) diseases: hence the syndrome existed but was very rare.
- The patients could be diagnosed by physical examination (percussion and auscultation), these methods are adequate even today. Our opinion is that the disease is now more common.

At that time "Poor Children Hospital of Pest" was the only children's hospital and outpatients department in Hungary, and thus there are good reasons for beleiving that the data were typical of that period. However, since the parents of the children who were treated in it were mainly coming from the lower social classes, the occurence of the diseases in the upper classes may have been different - even higher.

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