Evaluation of sexual development in patients with bronchiectatic disease Sharipova O.¹, Bobomuratov T.², Turaeva N.³ (Republic of Uzbekistan) Особенности полового развития больных бронхоэктатической болезнью Шарипова O. A.¹, Бобомуратов T. A.², Тураева H. O.³ (Республика Узбекистан)

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Abstract: the estimation of the sexual development of children with bronchiectasis. The study included 42 children with bronchiectasis in the age from 11 to 16 years. Of these, 15 (35.7%) girls and 27 (64.3%) boys. Cylindrical bronchiectasis were found in 32 (80.3%) patients, 10 (19.7%) saccular bronchiectasis. It was revealed that bronchiectasis adversely affects the sexual development of children of both sexes. The pace of development of secondary sexual characteristics occurs gradually and does not end until the end of puberty. The data dictates the need to develop targeted practical measures in this direction.

Аннотация: проведена оценка полового развития детей с бронхоэктатической болезнью. В исследование включено 42 ребенка с бронхоэктатической болезнью в возрасте от 11 до 16 лет. Из них 15 (35,7%) девочки и 27 (64,3%) - мальчики. Цилиндрические бронхоэктазы выявлены у 32(80,3%) больных, у 10 (19,7%) мешотчатые бронхоэктазы. Выявлено, что бронхоэктатическая болезнь отрицательно влияет на половое развитие детей обоих полов. Развитие вторичных половых признаков происходит постепенно и не завершается до конца пубертата. Полученные данные диктуют необходимость разработки целенаправленных практических мероприятий в этом направлении.

Keywords: bronchiectasis, sexual development, genetometric analysis. *Ключевые слова:* бронхоэктатическая болезнь, половое развитие, генетометрический анализ.

On the world level full value growth and development of a child is integrative index of the health, harmonious interaction of the body systems and have decisive meaning in formation of the health of rising generation [1, 6]. In spite of achieved results in comprehension of pathophysiologic mechanisms of retardation of sexual development [3,4], in bronchiectatic disease has not been elucidated in the accessible literature.

Objective: Evaluation of the sexual development of children with bronchiectasis.

The study involved 42 patients with bronchiectasis from 11 to 16 years. Of these, 15 (35.7%) - the girls and 27 (64.3%) - the boys. In 32 (80.3%) patients were identified saccal bronchiectasis, 10 (19.7%) saccular bronchiectasis. Bilateral lesions were observed in 8 (19%), one-sided 34 (81%) patients. According to duration of the disease, patients were distributed as follows: 5-6 years-8 (19%), 7 years, 10 (19.7%), 8 years and more or 24 (57.1%). To check the status of sexual development in boys we carried out genetometric analysis and evaluation of the stages of sexual development by J. M. Tanner (1967). When evaluating the PR girls paid attention to the severity of the pubic and axillary hair distribution, the growth of the mammary glands, for a period of menarche.

In analyzing the characteristics of the sexual development of children we have identified the following differences. Thus, boys as young as 12 years of penis length was not significant, and across - significantly less than the standard indicators (respectively: $2,89 \pm 0,09$ sm (P <0.05) and $1.56 \pm 0,03$ sm (P <0.001)). As is known, the first sign of the onset of puberty is an increase in the testes, which occurs between 11 and 12 years. Our research on the measurement of the right testicle in patients 12 years of age showed that its dimensions have significantly less (2,55 $\pm 0,14$ sm; $1,63 \pm 0,89$ sm) compared with the control group ($3,1 \pm 0,22$; $1,82 \pm 0,13$ sm). In patients of 13 years the length and diameter of the penis were 3.42 ± 0.32 ; 2.14 ± 0.1 sm, whereas in the control group $4.53 \pm 0,41$; $2,1 \pm 0,11$ sm, the volume of the right testicle patients in this age subgroup was equal to $2.44 \pm 0,14$ sm; $1,82 \pm 0,11$ sm, and in the control group $3.42 \pm 0,21$ sm; $2,12 \pm 0,11$ sm. The greatest lag of genetometric index we found in patients 14, 15 and 16 years old. Thus, in patients 14 years of penis size were $3,48 \pm 0,42$; $2,11 \pm 0,14$ sm (P <0.001), and the volume of eggs $3,0 \pm 0,12$ sm; $1,98 \pm 0,14$ sm (P <0.001). In patients 15 years the size of the penis was $4,5 \pm 1,23$ sm; $2,2 \pm 0,18$ sm (control group $6,14 \pm 0,94$; $2,46 \pm 0,13$), and the volume of the right testicle $3, 1 \pm 0,04$ sm; 1.95 ± 0.23 sm (control group $3.88 \pm 0,38$ sm; 2.41 ± 0.16 sm). Patients with bronchiectasis were not of secondary sexual characteristics in 13 years, i.e., they were on the 1st stage of sexual development according to Tanner.

In children under 15 years, there has been a delay of the appearance of secondary sexual characteristics, the size of the external genitalia did not meet the general population norms (II th stage II puberty Tanner). Analysis of the sexual development of children depending on the duration of bronchiectasis showed that with increasing duration of the illness, mental retardation rate also increased. When the duration of bronchiectasis more than 7 years, the delayed puberty was at 92.9% of the patients. According to WHO recommendations diagnosis "Retardation of

sexual development" made for girls the absence or underdevelopment of secondary sexual characteristics, and to 13 years in the absence of menarche to 15 years [2, 5]. Girls with bronchiectasis to 13 years from 15 patients P_2 is determined in only 4, P_1 - in 7 patients. In 4 patients with pubic hair growth was absent. Mammary gland MA₁ stage - in 4, Ma₂ - at 8 and 3 girls breast was not developed.

Axillary hairiness in step A_1 was observed in 8 patients with girls as young as 13 years old. Pubic and axillary hair growth was expressed poorly in girls at the age of 14. By age 16 the sexual body hair was in 8 (53.3%) in R_2Ah_2 stage and in R_3Ah_3 stage was only 5 (33.3%) patients, whereas in the group of healthy peers this formula had been $R_{4.5}A_3$. In addition, in all age groups showed a trend to a lengthening of terms of passage of certain stages in the development of mammary glands compared to their healthy peers virtually. Mammary glands to 16 years in 4 (26.7%) patients were in stage MA₃, and the remaining patients did not exceed II degree Tanner. It is known that the most objective indicator of puberty girls is during the onset of menstruation. According to the data in our republic F. M. Ayupova [1], the average age of menarche is 12 years and 10 months. The absence of menarche to 15 years can be regarded as primary amenorrhea. The analysis of our data showed that the 13-year-old girls, bronchiectasis patients, did not reveal persons with the beginning of menstruation. In the 14 years of the 5 examined only in 2 appeared menarche.

At age 15, from 6 patients in the 4 and 16 at the age of 4 surveyed contingents appeared in 3 appeared menarche. In 16 years of menarche did not come only 1 girl with pneumonectomy. In addition, girls with bronchiectasis process of becoming menstrual function and cyclicity was disrupted in comparison, than healthy ones. An analysis of the nature of the menstrual cycle showed that at the age of 14-16 (of 15 patients) years had only 3 (30%) of the steady menstrual cycle among the surveyed girls. The duration of menses was 5.6 ± 0.64 average of days. Of the 10 menstruating girls in 8 (80%) had painful menstruation.

Thus, our findings allow us to conclude about the negative impact of bronchiectasis on sexual development, which calls for the development of targeted practical measures in this direction. In general, all patients maintained a sequence of appearance of secondary sexual characteristics, but the pace of development of secondary sexual characteristics in comparison with healthy peers are different, i.e. Patients with bronchiectasis process of puberty occurs gradually and does not end until the end of puberty.

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