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REHABILITATION ISSUES AFTER PAEDIATRIC COCHLEAR IMPLANTATION IN KAZAKHSTAN

ВОПРОСЫ РЕАБИЛИТАЦИИ ПОСЛЕ КОХЛЕАРНОЙ ИМПЛАНТАЦИИ У ДЕТЕЙ В КАЗАХСТАНЕ

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Annotation

Cochlear implantation is a method of surgical treatment of patients with profound hearing impairment. In Kazakhstan, a governmental program had been

introduced for children under 18 since 2007. After the implementation of the pediatric cochlear implantation program in our country for the last 13 years, there are still some issues after operation, which were remains unsolved. In this paper we analyze the roots of these issues and try to offer the decision for them.

Аннотация

Кохлеарная имплантация — метод хирургического лечения пациентов с глубокими нарушениями слуха. В Казахстане с 2007 года введена государственная программа для детей до 18 лет. После реализации программы детской кохлеарной имплантации в нашей стране за последние 13 лет все еще остались некоторые нерешенные вопросы в послеоперационном периоде. В данной статье мы анализируем корни этих проблем и попытаемся предложить их решение.

Key words: cochlear implantation, children, rehabilitation, otorinolaryngology

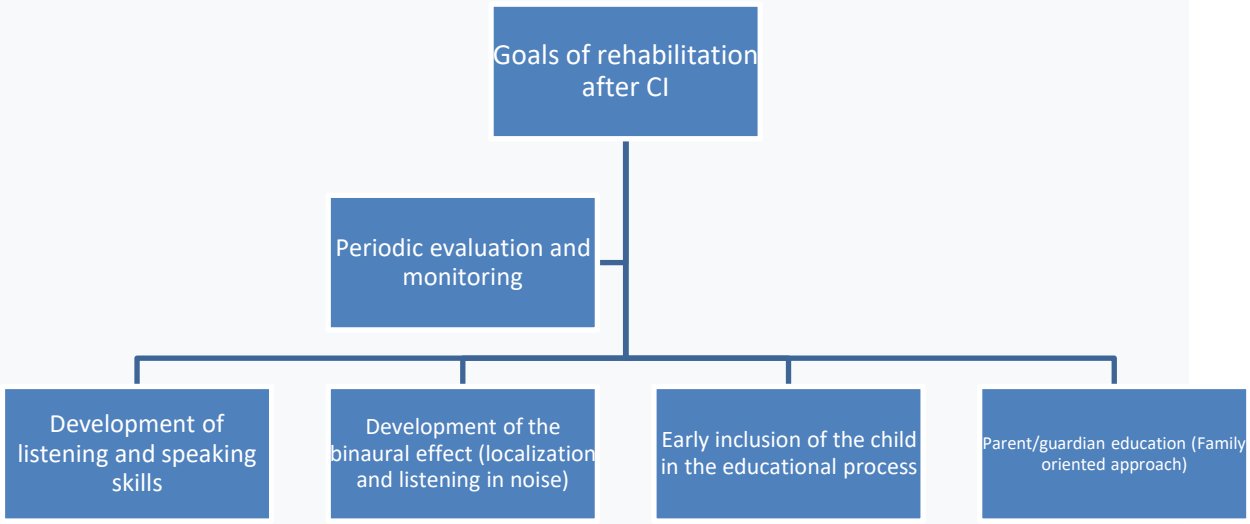
Ключевые слова: кохлеарная имплантация, дети, реабилитация, оториноларингология.

Introduction:

Cochlear implantation is a method of surgical treatment of patients with profound hearing impairment, where the problem lies in the cochlear of inner ear itself. Since 1990, the FDA has approved the usage of this method for the pediatric population, and in the Republic of Kazakhstan, a governmental program was introduced for free cochlear implantation of children under 18 since 2007. Thanks to the introduction of audiological screening of newborns since 2009, the process of identifying children with profound hearing impairments has accelerated and their number has increased, thereby providing prompt assistance and reducing the level of subsequent disability of children who were involved in the general educational process and development on time.

From 2007 to the present time, on the basis of the Aksai University Clinic, more than 2,000 operations have already been performed on children with bilateral hearing loss of the 4th degree and deafness within the framework of the state program, which

made it possible to analyze and identify issues that need to be addressed. This paper analyzes and highlights issues related to the rehabilitation of children after cochlear implantation, faced by specialists and in particular parents, which were the result of intersectoral interaction and shows the effectiveness of the implementation of the pediatric cochlear implantation program in our country for the last 13 years.



Tasks:

Within the framework of this study, we are aimed at 1) reviewing the main issues of children's rehabilitation after CI surgery and 2) suggesting ways to solve them, adapted to Kazakhstani reality.

Discussion:

Rehabilitation of children after cochlear implantation consists of two stages, and includes both medical and pedagogical parts. We will cover the first part in this article. In the rehabilitation of children after cochlear implantation, certain goals are pursued to achieve a stable result and periodic evaluation and monitoring is required.

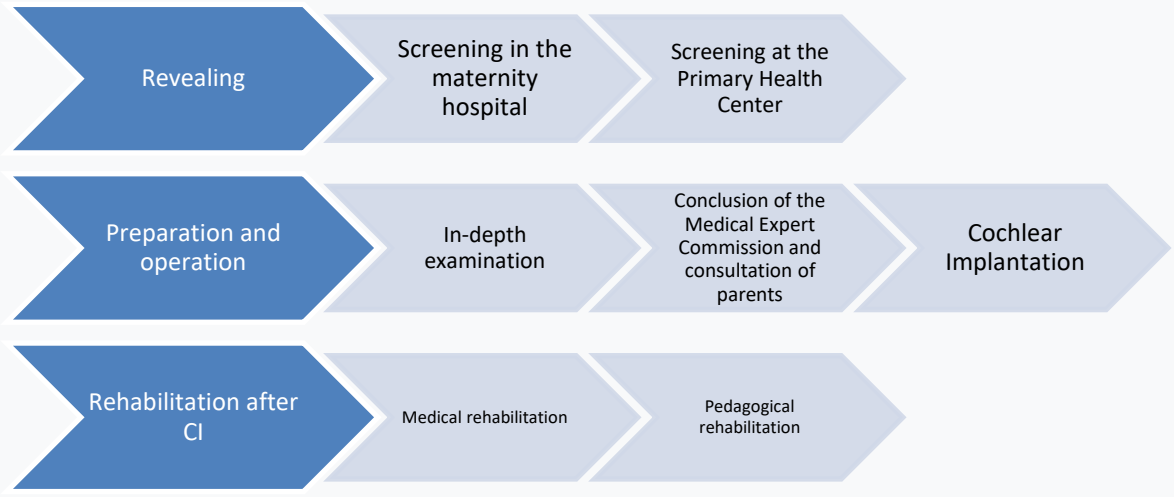
Namely: 1) the development of the binaural effect (localization and listening in noise), 2) the development of listening and speaking skills (intelligibility, vocabulary,

fluency), 3) early inclusion in the general educational process - all this depends not only on the work of specialists, but and, first of all, from the active involvement and interest of parents / guardian / legal representative of child, because parents are the ones who make the decision for the child, and it is in the family environment that the child's main development of speech and cognitive abilities and the natural process of rehabilitation take place. As described in the dissertation of Medeulova A.R. from 2019, what is needed is a family-oriented team approach.

Many foreign studies, as well as the consensus of leading experts, have come to the conclusion that early and binaural CI (up to 3 years) is necessary, when the maximum results in rehabilitation are achieved. Separately, not only the level of education and awareness of parents of children with severe hearing impairments, but also the involvement of fathers in the rehabilitation process, is highlighted, when the child is more enthusiastic in the learning process after operation (4)

This leads to the conclusion that it is necessary to cover the entire CI process in an accessible language for parents, on the basis of a single platform - non-medical, virtually uniting all specialists (medical: primary care doctors, ENT surgeons, audiologists / audiologists; pedagogical: deaf teachers, speech therapists, psychologists; social and non-governmental services : social workers, NGOs, etc.) and the parents and patients themselves.

Various recognized methods and programs of rehabilitation after cochlear implantation (3P, SEL, etc.) are carried out in the world, one of which is auditory-speech therapy, which is approved in the rehabilitation program of our country. According to the program, the medical part of rehabilitation after cochlear implantation consists of connecting and adjusting the implant after surgery in 3 rd level healthcare facilities.



And despite the fact that the program has been implemented for 13 years, rehabilitation issues still arise and there are still some percentage of the population (6.9%) who is not covered by audio screening.

According to the analytical brief policy by surdologist Tulepbekova N.M. 2019, these questions are still faced by physicians today for several reasons that were identified during the analysis of the effectiveness of audio screening in our country.

Namely, there is a shortage of specialists and a low education level of specialists in the periphery of country. Also, the first audio screening program from 2009 was not effective, which led to a revision and simplification of the 3-level screening system in 08/25/2021.

It turns out that the whole issue of 100% implementation of the rehabilitation program for children with hearing impairments is not in the consequences - in medical and pedagogical corrections - but in its causes, namely, in identifying patients by competent specialists according to a effective program in medical institutions of the second level (polyclinics). A new audio screening order was approved last year that reduced lost screening time - moving from a 3 level to a 2 level audio screening system.

Conclusions: Thus, the main issues identified were as follows. In order to develop a sustainable result and so that the contribution of a highly qualified team of 3 level specialists to children with hearing impairments is realized till the end, it is necessary to resolve the issue of 1) shortage of local specialists (audiologists) and 2)

improve the skills of local specialists (possibly remotely) through systematic training (especially nursing staff). Regarding the medical hearing correction itself - surgery and connection with adjustment - there were no questions or problems. But in the subsequent pedagogical correction, parents and patients encounter such issues that would be resolved through competent management and education of the family by specialists in outpatient settings, as well as 3) the creation of a common information platform (possibly on the Aksai University Clinic website) to eliminate barriers - territorial, economic, social and educational.

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