

The Development of Conditioned Reflex Motor Reactions in Children after Cochlear Implantation

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Abstract – The article reveals the relevance of the development of conditioned reflex motor reactions in children with cochlear implantation. Also in the article are games for the development of conditioned reflex motor reactions.

Keywords – Conditioned Reflex Motor Reaction, Cochlear Implantation, Hearing Loss, Deafness, Play, Activity, Speech, Hearing.

I. INTRODUCTION

The timely provision of assistance to children with hearing impairments is of particular social significance. Everyone knows that for 1000 normal births, 1 child is born with total deafness, and in the second, deafness develops up to three years.

Today, innovative technologies are widely used that are used in the rehabilitation of people with hearing impairment. One of these technologies is cochlear implantation, which is characterized by a highly technological method of helping people with severe forms of hearing loss and deafness who have not found an effective solution to their problems with traditional hearing aids.

The use of this technology is gaining more and more momentum in our country and as a result of hundreds of children are able to live with full hearing. Active study of the rehabilitation process during cochlear implantation was carried out by such scientists as Yu.M. Ovchinnikova, V.I. Pudov, G.A. Tavartkiladze, Yu.K. Yanov, M.R. Bogomilsky and others.

Cochlear implantation involves the prompt implantation of electrodes into the cochlea of the inner ear to restore auditory sensations through stimulation of the auditory

nerve. This method fundamentally changes the state of hearing, which is as close to normal as possible. It was revealed that a child with cochlear implants can feel sounds with an intensity of 3-0 dB, which indicates that as a result a mild degree of hearing loss is obtained.

II. MAIN PART

Cochlear implants of Cochlear and Med-el firms are used in Uzbekistan. At the Institute of Pediatrics and in a number of private clinics in Tashkent, operations are underway to implant a cochlear implant and further pedagogical intervention is carried out for full rehabilitation.

Such issues as the rehabilitation of children and the development of innovative methods for teaching children's speech after cochlear implantation were dealt with by such specialists in Russia as L.A. Golovchits, I.V. Koroleva, T.I. Obukhova, A.I. Sataeva A.A. Loginova, N.V. Tarasova, L.P. Nazarova and others

It is known that in early deafened children, the auditory centers of the brain are formed, which are necessary for processing audio information. As a result, after cochlear implantation in children, spontaneous full-fledged hearing development does not occur. For this reason, all children need focused activities to develop auditory perception and

speech. This is of particular importance especially in the first 2 years of using a cochlear implant. It is important to elementarily develop the skills of spontaneous listening, that is, a conditioned-reflex motor reaction to sound.¹

The conditioned-reflex motor response to sound (URDR) is a child performing a certain movement or action in response to a specific sound. The question arises: "Why is it necessary to teach a child URDR?" , an educator or an audiologist can get information to diagnose the level of auditory development in a child, find out what sounds (low-, medium-, high-frequency) the baby perceives. URDR will also help the sound educator and parents to check how the child hears in the cochlear implant, to understand whether the hearing aid or cochlear implant is correctly selected, tuned. Also, URDR is necessary for the development of auditory perception.

Classes can be held at home, in a comfortable environment for the child. The exercises use colorful, demonstrative material that will motivate the baby to play together. Below are the games for the development of URDR.

A. The game "Decorate the cake"

The game is intended for children 2-3 years old. This game can be used to prepare your child for hearing assessment and to develop hearing. To play, you need a metal picture with a cake, decorations for a cake with a magnet. Decorations for the cake and the pattern of the cake are in front of the child. After the signal sound, he selects the jewelry and fastens it to it. If the child applies the decoration, but there was no signal sound, then it is put back.

B. Game "Driver"

The game is intended for children 1, 5-2 years old. Before presenting the assignment, the child should play a lot and have a good look at the cars so that in the future he would not be distracted by them. The game can be used to prepare a child for hearing assessment and to develop hearing. You should prepare toy cars (5-6 pieces), a toy garage. There is a garage in front of the child, next to the cars. In response to the signal sound, the child brings the machine into the garage. To develop auditory perception, the exercise is carried out as well as in the diagnosis of hearing. Also, this game can be used to distinguish between

quiet and loud sounds "When you hear a loud sound - the machine drives into the garage, when the sound is quiet - the machine leaves".

C. Game "Flower Bouquet"

The game is intended for children 2-3 years old. This game is difficult for children with motor disabilities. We need toy flowers that are attached to the base, a vase. Flowers are made from soft material. The game can be used to prepare a child for hearing assessment and to develop hearing. There are flowers in front of the child. When giving a signal sound, the child takes a flower and puts it in a vase, then waits for the next signal. In order to develop auditory perception, this exercise can be carried out in two versions: option 1: when the child can hold flowers in his hand, you can give him the task of holding flowers in his hand. Option 2: after the child learns to distinguish colors, you can give the task: "Collect yellow flowers first," etc.

D. Game "Fold the picture"

The game is intended for children 2 years old. Need split pictures consisting of 4-5 parts. A cut picture is placed on the table in front of the child with the image down. When the child hears a signal sound, he flips another part of the picture. As a result, the child collects the full image.

E. Game "Magic Ball"

The game is intended for children 3 years old. Need a rubber ball of small size. An adult reproduces some kind of signal sound. If the child heard a sound, he throws the ball into the air. If the child did not hear the sound, then it does not work.

F. Game "Cleaning"

Designed for 3 years old children. A jar, colored buttons of various shapes are needed. An adult shows a pattern of action, and the child must follow. A signal is given, takes a button, throws it into a jar. The child, hearing a signal sound, throws a button into a jar. If he made a mistake, the adult defiantly pulls out a button and puts it in place. An adult during the game uses the following expressions: listen carefully, look, do as I do, there is no sound, right, well done.

G. Fruit game

The game is held with children 2 years old. Needed fruits (dummies), basket. The game can be used to prepare a child for hearing assessment and to develop hearing. Different sounds are made at different intervals. The child,

¹ Koroleva I.V. The development of hearing and speech of deaf children of early and preschool age after cochlear implantation / study guide / I.V. Koroleva - SPb St. Petersburg Research Institute of Ear, Throat, Nose and Resi, 2008.

after hearing a sound, puts the fruit in the basket. If there was no sound, the child shows its absence.

Developing the ability to listen and understand speech is a very complex process requiring painstaking work and a sign teacher and parents of children with cochlear implantation. It requires a consistent and systematic approach.

III. CONCLUSION

According to scientists' studies, after cochlear implantation, the formation of conditionally reilectonic motor reactions in a child, subject to intact intelligence and systematic corrective developmental work, is a long process and goes through the stages of speech development in children with normal hearing. Research N. D. Shmatko² and other scientists show that the effectiveness of the process of speech development of children in this category is determined by the following main conditions: the child should always be in a normal speech environment and receive systematic targeted corrective assistance; learning the language of implanted children must be carried out through activities exciting for the child, the practice of verbal communication based on the mandatory development of auditory perception and all mental functions.

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