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To the Question of the Function of the Eustachian Tube of the Middle Ear

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ABSTRACT

The author examines the current problem of modern medicine, associated with an increase in the number of air movements of people around the planet, during which the importance of the Eustachy canal of the middle ear in maintaining normal physiological state of the body. Without this movement, people usually do not pay any attention to the presence of this channel, as the alignment of air pressure, located in the closed cavity of the middle ear, with the atmospheric is not required, as they are equal. If this balance is disturbed, the body urgently needs a correction of this pressure, as there is a pronounced discomfort, accompanied not only with congestion of the ears, but in some passengers and headache. The significance of this factor in the cause of preterm birth and even in the death of some passengers on board the aircraft is not excluded. The article is relevant and has some importance not only for doctors, but also for employees of air transport companies.

The Aim of the Study: to show the functional significance of the Eustachian tube of the middle ear in the body's vital activity.

Introduction

All textbooks on normal physiology and anatomy describe a channel (Eustachian tube) that connects the middle ear cavity to the nasopharynx. However, the functional significance of this anatomical formation is not described [1-3]. There is no information about possible pathology, if through this channel the contents of the nasopharynx fell into the cavity of the middle ear - during coughing, sneezing and vomiting [4-6]. It is known that in the norm the lymph in the cavity of the middle ear does not accumulate and is absorbed by its cover tissues. If this does not happen, the pressure in this closed cavity increases, which is accompanied by pain and hearing loss. In this situation, a perfo-ration of the eardrum is required to drain the bowel from this cavity through the outer ear canal [6,7]. Thus, the Eustachian tube does not normally participate in the outflow of lymph from the middle ear cavity, that is, it is, as it were, in a closed state (both from the nasopharynx, and from the side of the middle ear cavity) and as if waiting for an excuse to open. This circumstance was the reason for logical understanding of the functional significance of the Eustachian tube of the middle ear for the life of the body.

Material and Methods

For forty years i had to constantly fly from one city to another and it happened at different heights. If the flight was made at an altitude of up to 2 km from the surface of the earth, then no changes in the body were observed. With the increase in the altitude of the flight to 10 km, as well as all other passengers, there was a congestion of the ears. To correct this negative phenomenon (at the rise and down) flight attendants offered lollipops - for active sucking and quite quickly laying passed. It was clear that with this supposition there is the opening of the ends of the left and right Eustachian tube, located on the mucous membrane of the nasopharynx, and the air from the cavities of the left and right middle ear is swollen, and the pressure in them falls. This is accompanied by the elimination of all painful sensations. Increased pressure in the middle ear cavity was also observed in acute respiratory viral disease, but local pain and ear congestion were constant and were accompanied by other symptoms of inflammation - temperature, swelling and mecums hyperemia Nasopharynx. Fluid out-flow (serous or goil) on the

Eustachian tube did not occur. The eardrum strained and protruded to-wards the outer ear canal. 10 patients used the perforation of the eardrum to relieve severe pain.

The result of the Observations of adult passengers of the aircraft showed that the discomfort due to the change in pressure in the middle ear cavity they all carried about the same and it was short-lived. Breast children, and there were no more than 5 of them, behaved extremely restlessly for a longer time. No fatalities were observed, although they were described in the media.

Discussion

Oddly enough, the functional value of the Eustachian tube is clearly visible only when flying on an aircraft above 4-5 km above the earth's surface, although the statute of the invention of the aircraft is 100 years old, and the person rose to the specified height only 70 years ago. This fact makes you think strongly about the evolution of mankind. Maybe once we flew and quite high, but then suddenly landed and began to crawl, and why? However, the answer to this question is not my task. And yet, if the alignment of pressure in the middle ear cavity and the surrounding habitat, is done in such a primitive way - sucking candy, then infants cannot do it and therefore before the appearance of consciousness they cannot fly, because sucking candy they don't know how to do it on their own.

Conclusion

The functional role of the eustachian tube of the middle ear is clearly seen only in the alignment of pressures between the cavity of this anatomical formation and the environment of each individual at one time or another of its existence. In all other cases, its passage to the contents of the nasopharynx can lead to severe consequences.

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