Our experience in Eustachian tube dilatation

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Eustachian tube dilatation is relatively new, effective and minimally invasive treatment of chronic tubal dysfunction, accompanied by otitis media with effusion. In the case of using this method in a deep stage of exudative or adhesive process it can be an additional allowance to improve the ventilation function of the middle ear, but should be combined with other types of surgical manipulations, such as tympanostomy. Before the balloon dilatation the adenotomy is recommended to be performed.

**Objectives**
Since 2010 the new opportunity to restore the ventilation function of the Eustachian tube is available. The balloon dilatation eustachian tuboplasty (BET) is carried out in children under general anesthesia by using of special equipment, disposable balloon catheters and endoscopic control. The increasing popularity and availability of this intervention prompted us to gain our own experience in this matter. The aim of our study was to assess the expendiency of BET.

**Materials**
In 2017 the BET was performed in 6 pediatric patients aged from 5 to 17 years with chronic Eustachian tube dysfunction or chronic otitis media with effusion. All of them are with the history of the disease for at least 1 year. Tympanostomy and courses of conservative treatment haven’t solved the problem. Adenotomy was previously done in all cases to minimize the obstructive factors in nasopharynx. All the patients had CT scans of the temporal bone to eliminate the risk of malformation of the carotid artery.

**Results**
In 2 patients there was marked improvement of tubal function and normalization of tympanometry results in the early postoperative period and no recurrence of the pathological process 4 months after surgery. That is shown on tympanograms bellow.

In one case patient showed a significant increase in compliance while maintaining the hypoventilation of the middle ear. In 1 case the catheterization was technically impossible due to significant stenosis of the pharyngeal mouth. In 2 cases balloon dilatation is performed in addition to tympanostomy. Complications were not marked.

**Discussion**
For further investigation several questions are still open:
- clear indication for the method to achieve maximum result,
- CT scans necesety,
- possibility of the results without adenotomy,
- reBET has a sense

**Methods**
The Spiggle&Theis balloon-catheters were used in this study. Operations were performed under general anesthesia. The diameter of the balloon after inflating amounted to 3mm, exposure time was 2 minutes. Tympanometry was chosen as the most versatile and feasible at any age method of efficiency control. It was performed preoperatively, in the early postoperative period, 6 weeks postoperatively, 4 months postoperatively.