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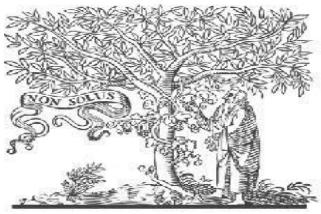

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# RETROSPECTIVE ANALYSIS OF THE APPLICATION OF BALLON DILATION SURGERY IN THE LARYNGEAL AND TRACHEAL CHRONIC STENOSIS

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**Annotation**

The problem of stenosis of the airways (larynx and trachea) is one of the most urgent and deserves special attention due to the violation of vital functions and high social significance. According to a number of authors, it accounts for 3-5% of all pathologies of the ENT organs.

**Калит сўзлар:** Ҳиқилдоқ стенози, ларингопластика, реконструктив жарроҳлик, баллон пластика, баллонли дилатация, трахеостомия.

**Relevance of the topic.** Icotational stenosis (IS) is a narrowing of the larynx cavity, which impedes the passage of air through the respiratory tract, disrupts the main functions of the larynx: breathing, protection and vibroacoustic therapy, and also causes hypoxia and hypoxemia in the body. Depending on the rate of development, stenoses are divided into acute, semi-acute and chronic. Chronic laryngeal stenosis (LS) is mainly caused by scarring. Among various etiological factors, tracheal intubation, cardiovascular diseases, tracheostomy are caused in 75-95% of cases. The patient's condition depends on the degree of respiratory stenosis, which is mainly divided into 4 stages:

Stage 1 - (compensation) narrowing of the cavity diameter to 50%;

Stage 2 - (subcompensation) narrowing to 51-70%;

Stage 3 - (decompensation) narrowing to 71-99%

Stage 4 - (asphyxiation) No place at all.

Currently, laryngoplasty and reconstructive surgery with scar tissue replacement are used as the main surgical method for the treatment of chronic scarring of the larynx in adults, including children. However, traditional multi-stage surgical interventions lead to long-term disability, are expensive, but do not always give the expected result. They have restenosis. On the other hand, the social adaptation of patients, especially children, is impaired and their quality of life deteriorates.

With the help of modern plastic endoscopic balloon (BP), the efficiency is about 80%. (J.L. Wentzel, M. Lang, M. Blanchard). For this reason, more attention is now paid to invasive methods.

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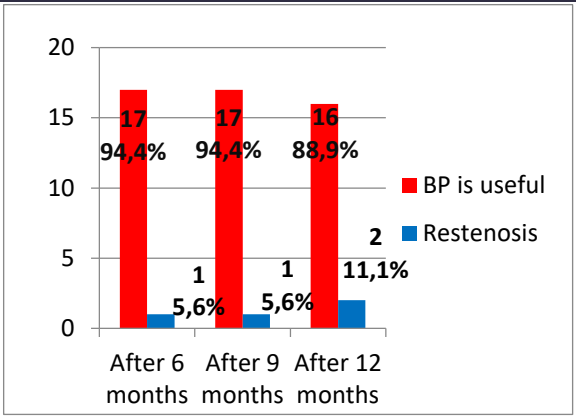
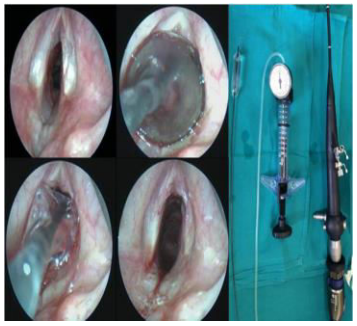



The method of balloon dilatation (balloon laryngoplasty) is based on the introduction of a silicone ball or plastic balloon into the projection of scar narrowing to treat cicatricial stenosis of the larynx and widening of cicatricial and narrowed airways by filling them with air. It was first used in 1984 for pediatric stenosis. This method is used for stenosis of the larynx of I-III degree.



**Picture.** Balloon dilation method for subcutaneous stenosis.

**Objective:** to evaluate the effectiveness of the use of balloon dilation in chronic laryngeal stenosis in children.

**Patients and research methods**. The research method is mainly based on history and retrospective. In 2016-2018. At the TashPMI clinic, 23 operations were performed to remove cicatricial stenosis of the larynx in 18 children (11 boys and 7 girls from 3 months to 7 years old) using balloon plastic. All patients were cannula carriers, but stenosis in the laryngeal cavity was at least 5 mm in diameter.

All patients underwent microlaryngoscopy (intubation through a tracheostomy) under endotracheal anesthesia, into which a balloon with a diameter of 5 mm to 8 mm was inserted. The balloon is placed at the level of laryngeal stenosis. Then the balloon bulged 10-16 atm. in this case, they are retained in the laryngeal cavity for 1 minute. In some cases, minor bleeding has been reported. If the cavity is not enlarged enough at the level of stenosis, the manipulation is repeated. After the restoration of spontaneous breathing, the patients were transferred to the ward.

**Research results.** In the postoperative period, all patients showed positive dynamics, free breathing by natural airways was observed even when the tracheostomy was closed. The patients were discharged from the hospital 5-7 days after the operation. Then the patients were followed up for 6-12 months.

Thus, 6 months after the operation, 94.4% of patients did not have a relapse, and 5.6% of patients had restenosis. After 9 months in the observed patients, the indicators did not change. After 12 months, restenosis was observed in 2 of 11.1% of patients, balloon repair was effective in 16 of 88.9%, and the laryngeal cavity increased from 50% to 80% relative to the initial narrowing.

**Conclusion.** Balloon plastic is an innovative and promising technology for the treatment of laryngeal stenosis in children. In children with a similar pathology, it is advisable to use it in the early stages of treatment and before complex multi-stage surgical interventions.

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