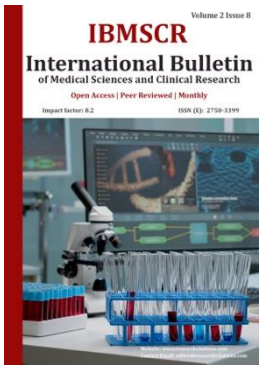

TOPICAL ISSUES OF CHOICE OF SURGICAL TREATMENT OF ADENOID VEGETATIONS

Khasanov U.S.
Khudayberganov U.R.
Tashkent Medical Academy
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Abstract. Adenotomy is a common surgical intervention in pediatric otolaryngology. The purpose of this review is to study the development of types of removal of hypertrophy of the pharyngeal tonsil (adenotomy). The review material consisted of scientific publications over the past 10 years, published in the international databases E-library, Scopus and Web of Science. Thus, it follows that a number of disorders of local and general nature are associated with hypertrophy of the pharyngeal tonsil. Hypertrophied lymphoid tissue, being a mechanical obstacle, complicates nasal breathing, as a result of which blood and lymph circulation is disrupted, which provokes pathology of various organs and systems. At the same time, modern data, emphasizing the significant role of the lymphoid tissue of the nasopharynx as the first line of defense of the child's body, require a balanced decision in choosing a method for treating hypertrophy of the pharyngeal tonsil.

Keywords: adenotomy, hypertrophy of the pharyngeal tonsil, adenoids, children.

Adenoidectomy is one of the most common surgeries in otolaryngology and has been actively used since the 19th century. In the structure of otolaryngological pathology, hypertrophy of the pharyngeal tonsil occupies a significant place and accounts for 30% to 45.2%. In the structure of surgical interventions in pediatric otolaryngology departments, adenotomy accounts for up to 80%. Under compulsory health insurance, this operation is an intervention of minimal complexity. The training program for interns and clinical residents provides for adenotomy as a starting operation in mastering the skills of practical otolaryngology. Among domestic leaders in otolaryngology, there is an opinion that adenoidectomy does not present any problem. In the late postoperative period, the most common complication is relapse. True relapses are distinguished, i.e. new growth of adenoid tissue after its complete removal, and false relapses, in which the remaining areas of lymphadenoid tissue grow. In light of modern views on surgery of lymphadenoid tissue after surgery, it is more correct to use the term "strain", i.e. incomplete removal of the adenoids that were present.

The frequency of relapses (strains), according to different authors, varies widely. Thus, he noted relapses (strains) of adenoids in 9.5%-75% of operated patients.

It is believed that in children operated on before the age of 5, the number of relapses is significantly higher than in children operated on at an older age. Relapses (strains) of adenoid vegetations can occur at different times after adenotomy. According to data, relapses of adenoids occur in the period from 3 to 6 months, sometimes - 10 months after adenotomy. If adenotomy is performed for chronic adenoiditis, then relapses occur 0.5-1 year after the operation. Thus, the most significant complication of adenotomy is relapses, which, according to various authors, has objective causes. The most common cause is incomplete removal of adenoid vegetations during surgery. According to the data, in 10 out of 19 children with

relapses of adenoid vegetations, the cause was incomplete removal of adenoids, as evidenced by the lack of improvement in nasal breathing after the operation.

In the last decade, there has been an increased interest of otolaryngologists in the problem of visual, including endoscopic, control of the surgical field during interventions on the nasopharynx. On the Internet, we were able to find over 1,500 foreign reports devoted to issues of increasing the efficiency and quality of adenotomy.

The desire to perform surgery under visual control is not accidental, since visualization of the course of the operation is the best way to prevent the disease from occurring. The last of the proposed methods was developed and has been widely used in our clinic since 1996, it is distinguished by the possibility of a complete review of the nasopharynx and posterior parts of the nasal cavity, the use of various instruments based on the financial capabilities of the clinic, and is easy to master by practicing doctors. At the same time, both parents and practicing doctors who do not use this method in everyday practice have questions about the safety and clinical effectiveness of the method compared to traditional surgery.

The purpose of this review is to study current views on the impact of pharyngeal tonsil hypertrophy on child development.

The review material included scientific publications for the last 10 years, published in the international databases E-library, Scopus and Web of Science.

Results of the review and their discussion. Since the mid-19th century, the main method of treating adenoid vegetations was surgical, namely adenotomy. Recently, many publications in the periodical literature are devoted to the denial of surgical radicalism in relation to hypertrophy of the pharyngeal tonsil. Many different methods of conservative treatment of children with adenoid vegetations have been proposed.

As an alternative to adenotomy, the use of the corticosteroid drug "Flixonase" for 30 days is proposed. The use of the drug Polydex with phenylephrine, vitamin therapy, and breathing exercises are suggested. A combination of low-intensity laser radiation with the homeopathic medicine tonsillotren is considered effective. A technique of immunostimulating cryolaser therapy is also described. The use of magnetic-infrared laser therapy is rational. We have developed and proposed for use a device for washing the pharyngeal tonsil, as well as a hydrodynamic applicator for electrophoresis of medicinal substances into the nasal cavity and nasopharynx.

However, the above-mentioned authors, who promote conservative methods of therapy, note their effectiveness only in children with grade I-II adenoids, as well as the lack of effect from treatment in a certain group of children who subsequently underwent adenotomy. It should be noted that none of these methods have become widespread as an alternative to surgical treatment and adenotomy is still one of the most common operations in otolaryngological practice. Most likely, the above-described methods can be used as preoperative preparation and management of patients in the postoperative period.

In the last decade, there has been an increased interest of otolaryngologists in the problem of visual, including endoscopic, control of the surgical field during interventions on the nasopharynx.

There are 5 prerequisites for the development of an endoscopic adenotomy technique:

1. Even with a carefully performed operation, one cannot be sure that the lymphadenoid tissue is completely removed.

2. When performing an operation without anesthesia, there is always a spasm of the pharyngeal muscles on the introduction of a foreign body into the nasopharynx (adenotome), which technically does not allow radical removal of the lymphoid tissue on the lateral walls of the pharynx.

3. Removal of the lymphoid tissue from the area of the Rosenmüller fossa creates the prerequisites for injury to the opening of the auditory tubes.

4. If a child has a high vault of the nasopharynx (Gothic palate), difficulties arise in removing the lymphoid tissue from the vault - the nasopharynx. In such cases, a typical "roll" of the nasopharynx often remains.

5. Modern methods of anesthesia allow the wide use of safe methods of anesthesia, providing optimal conditions for the surgeon's work.

Back in 1956, P. Guggenheim developed a method of direct adenotomy. The operation is performed using a Love retractor, which lifts and pulls the soft palate, a nasal illumination system, and a number of instruments (forceps, scissors, adenotomes of different diameters). After removing the bulk of the adenoid tissue, the nasopharynx is examined and all remnants are carefully removed. However, due to technical complexity, this method has not found wide application in practice; there are isolated reports of the use of this method in the domestic literature.

Some scientists have described a method of direct adenoidectomy, which is a combination and modification of the methods of direct adenotomy and adenotomy under the control of posterior rhinoscopy. The operation is performed under mask anesthesia in children and endotracheal anesthesia in adults, in the light surgical position of Tredelenburg or Rose. After the introduction of the Talinsky mouth dilator, the soft palate is mobilized by maximally pulling it with an eyelid elevator into the oral cavity. The surgical technique was performed with a Beckman adenotome. Older children and adults underwent posterior rhinoscopy or examined the surgical field using a small laryngeal mirror. This technique allows one way or another to visualize the operation, except for such anatomical features as a Gothic palate, which very often accompanies the diagnosis of adenoids, and such a pathology of the lymphadenoid system as hypertrophy of the palatine tonsils of grade II-III. Also, in our opinion, the issue of free maneuverability of the adenotome in the presence of an eyelid lifter in the mouth is questionable. We believe that the use of mask anesthesia in children is irrational, since there is a high probability of aspiration both in the early and late postoperative periods; it is unlikely that this method of anesthesia is sufficient to perform the above manipulations.

Adenotomy under the control of posterior rhinoscopy is performed under endotracheal anesthesia. The mouth is opened using a mouth gag, the soft palate is pulled forward and upward. The surgical procedure is performed with the same instruments, visual control is carried out using posterior rhinoscopy.

Adenotomy under the control of a laryngeal mirror is performed under endotracheal anesthesia. After installing the mouth gag, tamponade of the laryngopharynx with a gauze turunda, retraction of the soft palate is performed. Examination of the nasopharynx is carried out using a laryngeal mirror with a diameter of 24 mm, inserted transorally. The surgical procedure was performed under mask anesthesia in children and endotracheal anesthesia in adults, in the easy surgical position of Tredelenburg or Rose. After the Talypinsky mouth dilator was inserted, the soft palate was mobilized by maximally pulling it into the oral cavity

with an eyelid elevator. The surgical procedure was performed with a Beckman adenotome. Older children and adults underwent posterior rhinoscopy or examined the surgical field with a small laryngeal mirror. This technique allows one way or another to visualize the operation, except for such anatomical features as a Gothic palate, which very often accompanies the diagnosis of adenoids, and such a pathology of the lymphadenoid system as hypertrophy of the palatine tonsils of grade II-III. Also, in our opinion, the issue of free maneuvering of the adenotome in the presence of an eyelid elevator in the mouth is questionable. We believe that the use of mask anesthesia in children is irrational, since there is a high probability of aspiration both in the early and late postoperative periods; It is unlikely that this method of anesthesia is sufficient to perform the above manipulations.

Adenotomy under posterior rhinoscopy control is performed under endotracheal anesthesia. The mouth is opened using a mouth dilator, the soft palate is pulled forward and upward. The surgical procedure is performed using the same instruments, visual control is performed using posterior rhinoscopy.

Adenotomy under the control of a laryngeal mirror is performed under endotracheal anesthesia. After installing the mouth dilator, the laryngopharynx is tamponaded with a gauze turunda, and the soft palate is retracted. The nasopharynx is examined using a 24 mm laryngeal mirror inserted transorally. The surgical procedure is performed using a Beckman adenotome and its modifications.

The advent of endoscopic optics has increased the possibilities of visualizing the surgical field, and, consequently, surgical treatment, to a qualitatively new level and has significantly simplified access to the nasopharynx from a technical point of view. The method of endoscopic adenotomy involves the removal of lymphadenoid tissue under endotracheal anesthesia in the conditions of transnasal nasopharyngoscopy. The surgical procedure is performed using a microdebrider inserted transnasally through one half of the nose, under the control of an endoscope inserted through the other half. Then the positions of the microdebrider and endoscope are changed. It seems to us that this technique, although certainly increasing the effectiveness of adenotomy, is not without its drawbacks. In particular, it does not allow the removal of lymphadenoid tissue in adenoid vegetations extending below the level of the hard palate, does not provide a complete picture of the nasopharynx and does not provide the ability to assess the condition of the posterior ends of the inferior turbinates. The method of functional organ-preserving endoscopic adenotomy has also been described. The operation is performed under endotracheal anesthesia. After tracheal intubation, laryngopharyngeal tamponade and insertion of the Baul-Davis mouth dilator, the soft palate is pulled forward using thin catheters inserted into the oral cavity through both halves of the nose. The nasopharynx is examined using a 70° endoscope. Lymph node tissue is removed using Yurash or Blakeslee forceps with a working part bent at an angle of 45°, inserted transorally. First, the angle between the posterior edge of the vomer and the base of the skull is freed from lymph node tissue, then the areas adjacent to the choanae are removed. The criterion for sufficient tissue removal is complete visualization of the choanae borders and the posterior ends of the middle and inferior nasal conchae through 70° optics. If necessary, the lobes of the pharyngeal tonsil covering the opening of the auditory tubes are carefully removed. This technique is indicated for initially pronounced insufficient function of the soft palate and should be used to prevent open nasal speech. When using this method, there is a high probability of bleeding from the remaining fragments of lymphadenoid tissue.

Most otolaryngologists consider incomplete removal of adenoids to be the main cause of bleeding; repeated curettage of the nasopharynx to remove the remaining fragments is an effective method of combating this complication, which calls into question the very idea of organ-preserving adenotomy.

Thus, it follows that the use of minimally invasive and effective tactics for the treatment of adenoid vegetations is relevant.

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