

Application of New Technologies in Adenotomy

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Abstract: 78 patients with pharyngeal tonsil hypertrophy of II-III degree aged from 18 months to 34 years were examined, who underwent endoscopic adenotomy using radio wave energy and a microshaver system under general anesthesia. In 15 patients with hypertrophy of the pharyngeal tonsil (27%), a combined surgical pathology of the upper respiratory tract was revealed, which required appropriate treatment tactics. The obtained results of treatment of adenoid vegetations indicate the high efficiency of complex surgical tactics of simultaneous correction of all intra-nasal structures based on new technologies.

Keywords: adenoid vegetations, pharyngeal tonsil, radiofrequency adenotomy, cervical adenotomy.

Material and methods: All patients were subjected to general clinical examination, had different indications for adenotomy: persistent difficulty of nasal breathing, accompanied by hypertrophy of the pharyngeal tonsil of II-III degree, recurrent and exudative otitis media, conductive hearing loss, recurrence of symptoms of the disease after adenotomy, polypous rhinosinusitis. Used: rigid, flexible endoscopes, Celon device — operating on the basis of bipolar radio frequency currents with a direct coagulation electrode, and video system — Olympus equipment.

As a rule, diagnostic endoscopy in the primary patient did not cause difficulties, sometimes local anesthesia was not required, it was carried out with rigid and/or fibroendoscopes with a diameter of 2.7 and 2.2 mm, respectively. The nasal cavity, nasopharynx and oropharynx, pharyngeal mouth of the auditory tube were examined. In children with a pronounced negative reaction to the diagnostic procedure, mask anesthesia was resorted to. As a result of the diagnosis, it turned out that 27% of patients had concomitant pathology in the form of: chronic rhinitis, curvature of the nasal septum, anomalies of the ostiomeatal complex, polypous rhinosinusitis, hypertrophy of the palatine tonsils of II-III degree, exudative otitis media, which led to an increase in the volume of surgical intervention. Leibinger, Panget or DavisMeyer mouth expanders were used. The latter seems to be the most convenient, since it provides an opportunity to bring the AE blade up to the coulter into the nasopharyngeal arch and install it in front of the adenoid. A thin catheter made of elastic material was passed through the nose into the oropharynx, seized with tweezers and tied from the outside. Under the control of an endoscope with a 70° viewing angle deviation inserted through the oropharynx, small objects behind the soft palate were examined in detail. If necessary, photo and/or video documentation of the operation and/or pathological changes was carried out. Adenotomy was performed by a special AE under the control of endoscope vision. Radio wave energy was supplied in the mode of rectified waveform, that is, cutting and coagulation in a ratio of ≈ 50 to 50% and with a power of 40 units. The remnants of adenoid tissue, which were almost always present, were removed with a curved shaker nozzle in reverse mode. Visually controlled radioadenotomy (RA) showed far from complete removal of adenoid tissue after undergoing AE. Anatomical variants of the structure of the nasopharynx are such that it was impossible to do this almost always. The next step was to remove the remnants of adenoid tissue with a curved shaker nozzle. Its bending angle is optimal for this function. However, it should be noted that one should strive to do an adenoidomy, but not an adenoidectomy. Excessive removal of adenoid tissue can lead to damage to the underlying soft tissues of the cervical spine or vertebrae, provoke severe vascular bleeding, accidental resection of the tubal tonsil, etc.

Results and discussion The duration of subcarctic RA with hemostasis was 10 minutes on average. The adenotomy blade has the function of not only cutting, but also coagulation, so the adenotomy was almost bloodless. In 219 cases out of 300 patients, only RA was performed, in 3 patients — adenotomy and celon-radiothermoreduction of the lower nasal conchs, RA and cellon-tonsillotomy — in 50 patients, in 2 patients RA was combined with septoplasty, in 24 patients RA and tubal roller coagulation and radiomyringotomy (as an alternative to eardrum shunting), in 2 patients — RA and polysinusotomy (Table 1). The last one was made 3D RCT of the nose and ONP. The advantage of the study lies in the high image quality, reduced radiation dose compared to traditional RCT, the possibility of visualizing the spatial relationship of the nose and the ONP. The patient's stay in bed for 1-2 days. Postoperative management of patients was carried out in the conditions of MC "KORL" until the period of complete epithelialization of the mucous membrane of the nasal cavity, oropharynx, normalization of the otoscopic picture and auditory function. In almost all cases, RA did not allow the removal of the adenoid tissue completely, it was necessary to continue the adenotomy with a microshaver using a curved nozzle. Examining the nasopharynx with optics and using sufficient mobility of the shaver nozzle, the adenoid tissue was completely removed, including in the choan area. The adenoid prolapsing into the nasal cavity is difficult to remove completely in another way. Enlarged nasal shells were subjected to a whole radiothermoreduction (CR) lasting less than a minute by inserting an electrode through the nostrils. CR of the palatine tonsils was performed at three points of each of them. The movement of the distal part of the coagulator is parallel to the amygdala niche, somewhat retreating medially from its capsule, in order to avoid damage to the main vessels. The power was 7 units on the scale of the device. The duration of coagulation is regulated by the device's computer, the shutdown is automatic, depending on the density of tissues and the degree of their resistance. The advantage of the coagulation electrode is its ability to supply energy to the tissue bipolar. CR of the palatine tonsils is an almost bloodless procedure, it takes several minutes. The undoubted advantage of the technique is the almost complete preservation of the anatomical structures of the palatine tonsils and their functions.

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