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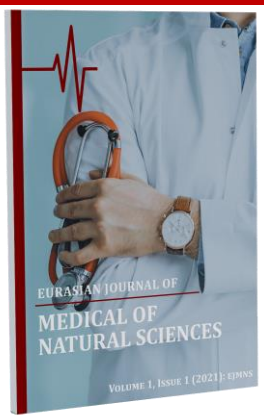

TREATMENT OF CHILDREN WITH ACUTE STENOSING LARYNGOTRACHEITIS IN CONDITIONS OF PROLONGED TRACHEAL INTUBATION

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ABSTRACT

Tracheal intubation in children with a clinic of increasing obstruction of the upper respiratory tract is a forced, often resuscitation measure to prevent asphyxia. This option of restoring the patency of the upper respiratory tract of children with acute stenosing laryngotracheitis (OSLT) has a number of advantages over tracheostomy (less traumatic, simplicity and greater efficiency), but it is not without significant drawbacks. In particular, prolonged tracheal intubation relieves only the severity of the asphyxia problem, however, with this method of managing patients, an unacceptably high level of mortality or dangerous complications has been recorded so far.

Thus, according to [7], the mortality rate in this method of management of patients with OSLT is 10-52%. In children with OSLT, the occurrence of post-intubation granuloma and scarring of the larynx should be noted among the dangerous complications of prolonged tracheal intubation. If we take into account that in the conditions of prolonged tracheal intubation, the toilet of the tracheobronchial tree is also disrupted, the refusal of some authors from this method of patient management and the narrowing of indications for extended tracheal intubation [3] with a decrease in the length of stay of patients with OSLT on extended intubation up to 1 day become understandable. However, these disadvantages of intubation management of patients with OSLT, in our opinion, are surmountable, which is consistent with the data of other authors [8], indicating the possibility of achieving zero mortality in the absence of complications of prolonged tracheal intubation.

The aim of our study was to overcome the negative aspects of prolonged tracheal intubation by applying the optimal variant of intensive therapy for OSLT. The following are the methodological features of the OSLT intensive care option used by us in conditions of prolonged tracheal intubation. The danger of developing asphyxia with increasing OSLT phenomena

determines the absolute indications of tracheal intubation. An absolute indication is asphyxia or a rapid increase in gas exchange and hemodynamic disorders. Relative indications are: the presence of purulent complications that aggravate gas exchange disorders (descending purulent tracheobronchitis, pneumonia), as well as long-term, up to 6 hours non-stop laryngeal stenosis of the II and III degrees. During intubation, the main points were considered to be the inclusion of consciousness with the help of drugs that do not have a depressing effect on the respiratory center, and the rejection of muscle relaxants. In choosing intubation tubes, preference should be given to pipes made of thermoplastic material (such as Portex). The diameter of the tubes for children under 3 years in 82% of our observations was 3.5 mm. For this age group [1], this size is the most optimal, since tubes of this size, providing normal gas exchange, are not traumatic due to high elasticity.

The next fundamental point in the management of patients with OSLT in conditions of prolonged tracheal intubation is to determine the frequency of reintubation. The existing recommendations in this regard are ambiguous. So, some authors consider [5] it is permissible to change the tubes on the 3rd-4th day, justifying this by the low traumatism of thermoplastic tubes.

We changed the intubation tubes every day. We have seen the positive effect of frequent reintubation not only in reducing the risk of bedsores, but also in restoring such an important sanitizing and anti-inflammatory mechanism as the inevitable cough. The importance of restoring natural scanning mechanisms is confirmed by the data of morphological examination of the tissues of children who died from complicated OSLT. All the victims were found to have severe forms of abscessing pneumonia and massive atelectasis. Similar changes were recorded by other authors [4 6]. Thus, an increase in the frequency of tube changes, in our opinion, completely eliminates the negative aspects of repeated tracheal intubations.

To reduce the negative (psychotic, stressful) consequences of reintubation, this procedure was performed against the background of hypoanalgesia. Most often for these purposes we used for GHB (100 mg/kg) or calypsol (2-5 mg/kg).

Other important points are the proper care of the intubation tube and the rehabilitation of the tracheobronchial tree. Firstly, for this it is necessary to ensure, if not sterile conditions, then the maximum possible cleanliness. Secondly, the suction of sputum from the tube and trachea should be carried out every hour, the sanitation of the tracheobronchial tree with an antiseptic solution several times a day, depending on the amount of sputum. Thirdly, the choice of antiseptic is important. We noted the best result when using dioxin (0.5-1% solution of 1-2 ml per sanitation). In order to dilute sputum, inhalations with DNase and mucosolvin were used. Great importance is attached to the choice of the option of antibacterial and immunotherapy, which is due to the frequency of purulent complications.

Tracheobronchitis and pneumonia were most often diagnosed in 86 and 50% of all patients, respectively, and in the genesis of complicated forms not only immunodeficiency [2], but also an articial injury of the mucosa during manipulations in the trachea [4]. Therefore, immediately

after intubation, we consider it mandatory to use two broad-spectrum antibiotics. The analysis of microflora in these patients showed that in all cases when crops from the trachea were positive, mixed microflora was sown. Fungi were sown in 35% of cases; staphylococci and streptococci were sown in equal quantities (18%). The optimal variant of antibiotic therapy was a combination of gentamicin (4 mg / kg) with cefamizine (80-100 mg / kg), which led to a rapid subsiding of the purulent process.

Prevention of dysbiosis was usually carried out: nystatin, biologics. All patients were prescribed both substitution immunotherapy (immunoglobulin, hyperimmune plasma) and immunomodulators from the first day. So, in 4 patients, T-activin is used at a dose of 40-60 micrograms / m2 of body surface. Great importance was attached to the treatment of these patients with local therapy of laryngeal stenosis, the treatment of so-called "dense edema" is still an unsolved task. We obtained a positive effect from topical application of 10% dimexide oil solution in the form of compresses on the anterior surface of the neck 2 times a day for 2 hours and fibrinolysin electrophoresis in the first 3 days (at a dose of 700-100 u / kg per day 2-3 times a day, together with heparin 100 U / kg).

Timely implementation of these procedures allowed in 11 observations to dramatically (up to 1-2 days) reduce the duration of prolonged tracheal intubation. Correction of homeostasis was carried out according to generally accepted rules. The volume of infusion therapy was 30-50 ml / kg, glucose-insulin-potassium solution, plasma or albumin, as well as rheopolyglucin or hemolysis (100 ml / kg) were used. According to the indications, cardiac glycosides, heparin (100-150 units / kg), trental or curantil (5 mg / kg), membrane stabilizers (tocopherol, ascorbic acid, pyridoxine, etc.) were prescribed.

In severe cases, proteolysis inhibitors (kontrikal, gordox) were also used, the use of glucocorticoid hormones was limited to their use in inhaled mixtures in the first 2-3 days due to the immunosuppressive effect and inhibition of the resorption of the infiltrate of the subcutaneous space. In addition to medications, oxygen vapor inhalations were used according to the generally accepted method (6).

We adhered to the principle of the minimum number of manipulations on the trachea, avoiding bronchoscopy, micro- and macro-tracheostomies. According to this method, 19 patients with decompensated form of stenosing laryngotracheitis were treated in 2019-2021. The duration of extended intubation varied from 6 to 19 days, averaging 3.6 days. 1 patient died with severe concomitant diseases and developmental abnormalities (thiomegaly, cytomegaly), i.e., the mortality rate for 3 years was conditionally 3.4%. There were no post-intubation complications with follow-up periods after OSLT of 1-3 years.

Conclusions:

1. Prolonged tracheal intubation is the method of choice for the treatment of severe forms of OSLT in children.
2. To prevent bronchopulmonary complications, complex and local and post-syndrome therapy is indicated, including frequent reintubation in the absence of other manipulations on the trachea, inhalation therapy, rational antibacterial therapy and homeostasis correction.

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