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TRACHEOSTOMY AS A MEASURE TO EXTEND ARTIFICIAL VENTILATION IN PATIENTS OF ICUS

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Abstract: Tracheostomy is a necessary operation in critically ill patients dependent on a ventilator. Patients in intensive care units who are scheduled to receive mechanical ventilation for more than 7 days should be transferred to breathing through a tracheostomy. Tracheostomy allows: to reduce the dead respiratory space; to stop sedation of patients; to facilitate access to the lower respiratory tract; to prevent changes in the mucous membrane and cartilages of the larynx, etc. Transcutaneous tracheostomy is preferable as the fastest and most convenient, it is performed directly by intensive care physicians, without the involvement of specialized specialists. There is a lot of data on the methods of performing tracheostomy, the timing of its imposition, and complications of the operation.
Keywords: Tracheostomy, puncture-dilation tracheostomy, complications of tracheostomy, indications for tracheostomy, artificial ventilation of the lungs.

INTRODUCTION

The issue of tracheostomy in intensive care patients remains relevant to this day, since the annual increase in patients who require long-term treatment in intensive care units averages 5%. Given the severity of the condition of this category of patients, one of the necessary methods of maintaining vital functions of the body is long-term mechanical ventilation of the lungs, which necessitates performing a tracheostomy for the purpose of respiratory support and adequate sanitation of the respiratory tract [1]. At least 10% of patients who require artificial ventilation (ALV) for at least 3 days undergo tracheostomy [2].

MATERIALS AND METHODS

It has been proven that long-term (more than 5-7 days) presence of an intubation tube translaryngeally causes irreversible changes in the laryngeal cartilages, which will inevitably lead to stenosis of the larynx after extubation. Tracheostomy, performed at the optimal time and technically correctly, significantly alleviates the course of the underlying disease and makes it possible to avoid severe, disabling complications that require long-term treatment in the post-resuscitation period [5]. The optimal time for transferring patients to breathing through a tracheostomy is 3-5 days from the start of mechanical ventilation [5]. However, there are many supporters of early tracheostomy who recommend performing the operation in the first 24-48 hours from the start of mechanical ventilation. According to some data, early tracheostomy leads to a reduction in the duration of mechanical ventilation and the length of stay of patients in intensive care units, reduces the risk of infectious complications, and prevents the risk of complications from reintubation [2].

At present, we have analyzed 295 case histories of patients who underwent tracheostomy to prolong artificial ventilation of the lungs in intensive care units of various profiles.

RESULTS AND DISCUSSION

The average bed-day before performing tracheostomy in this group was 3.26, the minimum tracheostomy was performed on the 1st day from the start of mechanical ventilation, the maximum on the 14th day. In 42 (42%) patients, tracheostomy was performed on the 1st-2nd day from the start of mechanical ventilation, of which 11 (26.2%) died in the first 3 days after performing CDT. In the first group, 10 complications (10%) were recorded, including: - 3 cases of tracheoesophageal fistula (2 patients died due to the severity of the underlying disease, in 1 case, a gastrostomy was required and then transferred to the thoracic surgery department), in all cases the fistula was detected during trachebronchoscopy and esophagogastroscopy; - in 1 case in the early postoperative period subcutaneous emphysema of the face and upper third of the body increased, during endoscopic examination of the trachea a tracheomediastinal fistula was detected;
- 2 patients with a pronounced granulation process in the subglottic part of the trachea, which did not allow them to be decannulated;
- in one patient, according to bronchoscopy data, impaired mobility of the epiglottis, the presence of pronounced granulation in the area of the tracheostomy cannula were noted;
- one case of bilateral laryngeal paresis, which was also a contraindication to decannulation.
The average age of patients was 68.5 years (from 17 to 95 years). The gender composition in this group was: 103 men, 92 women. 108 patients (55.38%) had neuro- and neurosurgical profiles, 58 patients (29.74%) had surgical pathology, 29 patients (14.87%) were patients of general and cardiac intensive care units.
In the second group, tracheostomy was performed at least on the 1st day after intubation, at most - on the 15th, the average bed-day was 3.23. Tracheostomy was performed on the 1st-2nd day from the start of mechanical ventilation in 81 (41.5%) patients, of which 35 (43.2%) died in the first 3 days after performing PDT. Complications developed in 8 patients (4.10%):
- 2 cases of tracheomediastinal fistula with the development of subcutaneous emphysema of the face and trunk, CT signs of pneumomediastinum, in both cases regression of subcutaneous emphysema was achieved by installing an extended tracheostomy tube with inflation of the cuff below the level of the defect;
- in 1 case, stenosis of the lower third of the trachea developed, which required bougienage of the narrowing;
- 1 bilateral laryngeal paresis, erosive tracheitis, the patient was not decannulated;
- 1 bedsore of the upper third of the posterior wall of the trachea (the bottom of the defect, according to bronchoscopy data, is the anterior wall of the esophagus);
- in 1 patient, due to paratracheal tube installation, pneumothorax developed, confirmed by radiography, which required urgent surgical intervention;
– 2 patients with a pronounced granulation process in the area of the tracheostomy (not decannulated). In this group, 18 patients (9.2%) were decannulated, on average 18.6 (6–45 days) days after tracheostomy.

CONCLUSION

Performing puncture tracheostomy is associated with a higher percentage of intra- and postoperative complications, compared with the surgical technique (10% versus 4.10%, respectively). Careful care of the tracheostomy opening, careful sanitation of the tracheobronchial tree, changing the cannula, timely endoscopic monitoring of the condition of the tracheal mucosa in the postoperative period and assessment of the condition of the mucosa, cartilages of the larynx and trachea before the expected decannulation allow for timely treatment, which minimizes post-tracheostomy complications.

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