

FIBROESOPHAGOSCOPY IN THE CHOICE OF TREATMENT TACTICS CHEMICAL BURNS OF THE FOOD BREEDER IN CHILDREN.

Tilavov U.H., Hotamov H.N., Chuliev M.S.

Tashkent Pediatric Medical Institute
Department of Faculty Pediatric Surgery

Summary: Strictures of various genesis are the most common surgical pathology of the esophagus in children. In turn, up to 60-70% of them for many decades are cicatricial stenosis developed after chemical burns. Moreover, their number is not only not decreasing, but is even increasing due to the wide spread of new chemical compounds in everyday life

Key words: esophagus, burn, chemicals, diagnostics, treatment, children.

Background: The fact of taking a chemical substance, clinical signs of esophageal obstruction in the acute period, and the presence of a burn of the oropharyngeal mucosa in a child do not confirm a burn of the esophagus and do not make it possible to determine its degree [1,5,9].

Endoscopic examination is the leading and first method of differential approach in the diagnosis and treatment of chemical burns in children. The earlier and more accurately the degree of severity of local lesions of the esophagus is determined, as well as the nature of functional disorders of the esophagus is established, the more successfully it is possible to prevent possible complications in the immediate acute (8-10 days), early post-burn (40-45 days) and remote periods.

With the introduction of fiber optics into practice, it has become possible to improve the endoscopic diagnosis of esophageal burns in children. Currently, the primary endoscopic examination is performed in the acute period 24-72 hours after the burn when the child's condition is stabilized [2,5,6]. The purpose of endoscopy is to identify characteristic endoscopic signs of the extent of the burn. In addition, endoscopy can be used to monitor the effectiveness of therapy or avoid unnecessary bougienage [3,7,8].

Opinions on the necessity and timing of subsequent esophagoscopy are contradictory. Isakov Y.F. et al. recommend endoscopy at 3-4 weeks of conservative treatment. Chernousov et al. Control esophagoscopy is performed at 4-5 weeks.

Material and methods. A retrospective analysis of the case histories of 68 patients who underwent inpatient treatment for chemical burns of the esophagus in the TashPMI clinic for the period from 2017 to 2023 was carried out. Of these, 42 (61.7%) were boys and 26 (38.2%) were girls.

The causes and nature of the burn, the volume and timing of endoscopic examinations and treatment of patients depending on the severity of the chemical burn were analyzed. Children with first-degree burns and deceased children were excluded from the present study. Second-

degree chemical burns were found in 21 (30.8%) patients, and third-degree chemical burns were found in 47 (69.1%) patients.

Results and discussions. Chemical burns of the esophagus were caused by ingestion of acids in 17 (25%) children, alkali-containing solutions (caustic soda, ammonia, detergents) in 29 (42.6%), sparkling cauldron solution in 17 (25%), and unknown cause in 5 (7.3%) patients. (Table 1)

Table.1

Indicators of the nature of the burn agent and the age of the examined patients

Chemical Agent	Age					Degree of burn		Total
	Up to 1 year	1-3 years	3-5 years	5-7 years	7-15 years	II	III	
Acid	1	4	9	3	-	5	12	17
Alkali	-	13	23	9	1	13	33	46
Unidentified substance	-	2	2	1	-	1	4	5
Altogether	1	19	34	13	1	19	49	68

The table shows that in the vast majority of cases, third-degree burns of the esophagus in patients were caused by alkali.

Recently, the treatment of chemical burns of the esophagus and post-burn strictures has undergone constant changes. This is due to the improvement of intraluminal early diagnosis of the technique and the degree of burn.

Upon admission, all children underwent endoscopic examination on 1-3 days after the burn, then on 7-9 days, 17-21 days, after 1 month, after 3 months. During this time, the condition of the esophageal mucosa was assessed, the level and extent of the burn were determined. The endoscopic picture of a chemical burn of the esophagus at various degrees of its damage on the 3rd day was characterized by the following signs:

The first degree of chemical burn of the esophagus was manifested by edema, hyperemia of the mucous membrane, and the absence of fibrinous overlays.

In second-degree burns, the endoscopic picture was characterized by pronounced edema, fibrin overlays, and superficial ulcerations. In 3 patients, edema was pronounced and narrowed the lumen of the esophagus, there was some rigidity of the walls of the esophagus (endophoto 1).

In the third degree of chemical burn of the esophagus, the presence of extensive areas of necrosis and ulceration of the mucosa and submucosal layers was noted, the surface was covered with dense fibrinous plaques, and contact bleeding was noted (endophoto 2).

Repeated fibroesophagoscopy on days 7-9 in patients with second-degree burns showed a slight decrease in mucosal edema, in the places of physiological narrowing of the esophagus, the presence of areas of fibrin and necrosis in the form of focal confluences, contact bleeding was noted (endophoto 3).

In patients with third-degree burns, severe edema, the presence of massive fibrinous superimpositions that were difficult to separate from the mucosa, the presence of granulation areas, contact bleeding, and rigidity of the esophageal walls persisted in a significant area (endophoto 4).

On days 19-21, 5 patients with grade II had slight edema and hyperemia, 8 patients had superficial ulcers covered with a delicate plaque, 2 patients had edema and the presence of fibrinous superimpositions. All patients with third-degree burns had multiple erosions with dense circular fibrinous overlays, granulation areas, weakening of peristalsis, and stiffness of the esophageal walls (endophoto 5).

The use of endoscopy in dynamics has made it possible to develop a new approach to the diagnosis and choice of tactics for the treatment of chemical burns of the esophagus. Endoscopic criteria have been developed to differentiate between second- and third-degree esophageal burns.

Treatment tactics for children with chemical burns were chosen depending on the endoscopic picture of the degree of esophageal damage. 19 patients with second-degree esophageal burns were prescribed analgesic therapy, detoxification therapy, general tonics, broad-spectrum antibiotics, gastroesophageal reflux prevention agents, glucocorticosteroids, solcoseril and sea buckthorn oil. Physiotherapy was prescribed to improve tissue trophism and blood flow to tissues. A second-degree burn resulted in complete epithelialization of the esophagus without narrowing. In isolated cases, with a second-degree burn of the esophagus, the formation of delicate superficial scars was noted, which did not narrow the lumen of the esophagus, which was bougienized with the help of an endoscope and blind bougienage. Out of 19 patients, 3 (15.7%) patients in this group developed cicatricial stenosis of the esophagus, and we attribute this to the underestimation of the severity of the burn during the examination, as well as inadequate conservative treatment.

Third-degree esophageal burns were confirmed in 49 (72%) children. The condition of the children at admission was severe due to malnutrition and the addition of septic complications. They were also prescribed analgesic therapy, detoxification therapy, tonics, broad-spectrum antibiotics, gastroesophageal reflux prevention agents, glucocorticosteroids, solcoseril and sea buckthorn oil. All children with third-degree burns underwent early prophylactic bougienage. Despite this, in the first months after the burn, they developed persistent esophageal strictures. In such children, first of all, it was necessary to solve the issue of restoring the patency of the esophagus. All 49 patients underwent a gastrostomy according to Kader, feeding through stoma and bougienage "by the thread". Of the 49 children, 23 (46.9%) patients underwent staged bougienage for 6 months, 2 (24.4%) patients for 9 months, and 14 (28.5%) patients for 15 months. A follow-up endoscopic examination of the esophagus was performed at 1.5 intervals; 3; 6; 9 and 12 months.

A particular difficulty was presented by 14 (28.5%) children with prolonged formed esophageal stenosis, pronounced suprastenotic dilation, for which bougienage did not give the desired effect. Six patients underwent coesophagoplasty and 8 patients underwent esophageal stenting (Boubella HY stent) with good postoperative results.

Conclusions: 1. Endoscopic examination is the leading and main method in determining the degree of damage to esophageal tissues, as well as monitoring the effectiveness of therapy.

2. The developed endoscopic criteria improved the differential diagnosis of second- and third-degree burns in the first weeks and made it possible to develop indications for bougien.

3. Endoscopy is aimed at assessing children with an unaffected esophagus and determining the treatment tactics for children who need further conservative and surgical treatment.



Literature.

1. Abdullaev B.A., Gunya A.M., Stavertiy Y.V., et al. Choice of treatment method for cicatricial strictures of the esophagus. Materials of Research. Conf.: Novoe v rekonstruktsionnoy khirurgii.- M., 2004,- S.Z.
2. Gallinger Y.I., E.A. Gogello. Esophageal strictures: treatment strategy, endoscopic methods of treatment // Russian Journal of Gastroenterology, Hepatology and Coloproctology. - 2001.-No 5.- P.73-78.
3. Ganikhodzhaev S.S. Treatment of scar narrowing of the esophagus by the method of endoprosthesis. Materials of Research. Conference: Restorative and organ-preserving technologies are the main way of development of surgery of the XXI century. Moscow, 2004, p. 34.
4. Pinchuk T.P., Abakumov M.M., Il'yanenko K.K., et al. Influence of gastro-esophageal reflux on the course of reparative processes in esophageal burns. - 2013.- No 12.- P.52-57.
5. Volkov S.V. Chemical burns of the esophagus. Endoscopic diagnostics. Russian Journal of Gastroenterology, Hepatology.
6. Andreev A.L. Endoscopic balloon hydrodilatation and stenting with scarry strictures of esophagus and esophageal anastomosis: Author. Dis ... Cand. med. sc.: 14.00.27 / USSR AMS. All-Union. scientific. surgery center. - M., 2019. - 23 p. (in Russ.).
7. Osugi H, Takada N, Masashi T, Lee S, Ueno M, Tanaka Y, Fukuhara K, Kinoshita H. Thoracoscopic esophagectomy. Nippon Geka Gakkai Zasshi. 2017; 103:4:354-358. 19.



- Smithers BM, Gotley DC, McEwan D, Martin I, Bessell J, Doyle L. Thoracoscopic mobilization of the esophagus. A 6-year experience. *Surg endosc.* 2018; 15:2: 176-182.
8. Pregon I, Hritz I, Tulassay Z, et al. Peptic esophageal stricture: medical treatment. *Dig Dis* 2009; 27:31–7.
 9. Pace F, Antinori S, Repici A. What is new in esophageal injury (infection, druginduced, caustic, stricture, perforation)? *Curr Opin Gastroenterol* 2009; 25:372–

SUMMARY

A ROLE ENDOSCOPIC RESEARCHES IN DEFINITION OF TACTICS TREATMENT OF CHEMICAL BURNS OF AN ESOPHAGUS AT CHILDREN

Tilavov U.Kh, Khotamov Kh.N., Chuliev M.S.

The results of endoscopic diagnosis and treatment tactics of 68 children with chemical burns of the esophagus were analyzed. All children underwent endoscopic examination on days 1-3. Bougienage was performed in 23 patients for 6 months, 12 patients for 9 months, and 14 patients for 15 months. In 14 patients, bougienage did not give the desired effect, and six patients underwent coloesophagoplasty; in 8 patients, esophageal stenting was performed (Boubella HY esophageal stent).