MODERN MEDICINE AND PRACTICE
https://inovatus.es/index.php/ejmmp
EUROPEAN JOURNAL OF MODERNMEDICINEAND PRACTICE
Vol. 4 No. 4 (Apr - 2024) EJMMP ISSN: 2795-921X

MORPHOLOGICAL CHANGES IN THE WALL OF THE STOMACH IN CHEMICAL BURNS OF THE DIGESTIVE TRACT OF VARIING DEGREES

Khamroeva Lola Rizoyevna
Bukhara State Medical Institute Department of Anatomy and Clinical (OXTA) Anatomy

Annotation: Chemical burn digestive tract local damage to the wall of the upper part of the digestive tract due to accidental or intentional ingestion of a cauterizing chemical through the mouth. Cauterizing substances are chemical substances or mixtures thereof that cause a chemical burn upon contact with mucous membranes or skin, accompanied by general toxic symptoms. Poisoning with cauterizing substances is a systemic disease, a separate nosological form of burn disease of chemical etiology.

Key words: Gastrointestinal tract of the gastrointestinal tract, computed tomography CT, acid-base status of acid-base balance, cicatricial narrowing of the esophagus RSP, chemical burn of the esophagus COP.

Introduction

Definition of a disease or condition (group of diseases or conditions) Chemical damage to the wall of the upper part of the digestive tract local damage due to accidental or intentional ingestion of a cauterizing chemical (CAC) [1,3,4,11]. A chemical burn of the esophagus is accompanied by a toxic resorptive effect. The cause of a chemical burn of the esophagus (COB) is the accidental or intentional ingestion of concentrated solutions of inorganic or organic acids (nitric, sulfuric, hydrochloric, acetic, oxalic), alkali solutions (caustic soda, caustic potassium), as well as strong oxidizing agents (potassium permanganate, hydrogen peroxide, other oxidizing agents included in numerous modern detergents, cleaning products, bleaching agents), ammonia, acetone, iodine [3,11,16,64 – 66,68]. In the pathogenesis of a chemical burn of the esophagus, local and general pathological processes are distinguished [4,13].

The cause of a chemical burn of the esophagus (COB) is the accidental or intentional ingestion of concentrated solutions of inorganic or organic acids (nitric, sulfuric, hydrochloric, acetic, oxalic), alkali solutions (caustic soda, caustic potassium), as well as strong oxidizing agents (potassium permanganate, hydrogen peroxide, other oxidizing agents included in numerous modern detergents, cleaning products, bleaching agents), ammonia, acetone, iodine [3,11,16,64 – 66,68]. In the pathogenesis of a chemical burn of the esophagus, local and general pathological processes are distinguished [4,13].

Data on the incidence of scar post-burn strictures of the esophagus are contradictory and range from 8 to 73% of all cases of esophageal burns [1,3,4]. Scar tissue that exists for a long time against the background of chronic esophagitis, constantly injured by saliva, food masses (with preserved partial patency), after 15-20 years can lead to the development of leukoplakia, dysplasia and ultimately malignant degeneration (squamous cell carcinoma), the probability of which is more than 2 thousands of times higher than among people who did not have a burn of the esophagus [5].

The degree of general toxicity depends on the duration and rate of resorption. The duration of resorption of organic and inorganic acids ranges from 30 minutes to 6 hours, alkalis - from 30 minutes to 2 hours. The

rate of resorption, in turn, depends on the area of the burn (the amount of VPD and the depth of the burn (VPD concentration) [6].

Two age groups are most at risk: children aged 2–6 years, who inadvertently ingest household cleaning products and account for up to 80% of VPD ingestions but usually have minor injuries; and adults aged 30–40 years who habitually used potent corrosive substances with suicidal intent and presented with serious, life-threatening injuries [23].

Patients who decide to commit serious suicidal actions, however, experience deep burns not only of the oral cavity, pharynx and esophagus, but also of the stomach, duodenum and jejunum. Such patients die in the first two to three days from severe general intoxication and extensive tissue necrosis [4,7,16]. take in one gulp a large amount, over 50 - 100 ml of cauterizing liquid

The clinical manifestations of OCP depend on the nature of the cauterizing liquid, concentration, volume taken orally, which is ultimately expressed in the degree of burn. In this regard, the clinical picture should be considered depending on the stage of the disease (condition): acute toxicogenic stage, somatogenic stage and stage of post-burn scar changes [2,16,23].

Toxicant is a broader concept than poison, used not only to designate substances that cause intoxication, but also provoke other forms of the toxic process, and not only of the body, but also of biological systems at other levels of organization: cells (cytotoxicant), populations (ecotoxicant). Post-burn stricture of the esophagus is a narrowing of the lumen of the esophagus of varying lengths and at different levels due to the growth and maturation of scar tissue in the wall of the esophagus due to the influence of exogenous factors, accompanied by its deformation. The severity of acetic acid poisoning is largely determined by damage to internal organs [3].

This is due to the specific effect of acetic acid (hemoglobinuric nephrosis against the background of intravascular hemolysis of erythrocytes and active resorption of the acetic acid molecule) and the development of exotoxic shock (due to pain, extensive chemical burns of the mucous membranes of the gastrointestinal tract and early gastric bleeding). According to the classification of E.A. Luzhnikov, in case of mild poisoning, the content of free hemoglobin in the blood does not exceed 5 g/l (500 mg%), in case of moderate and severe poisoning, 5-10 g/l (500-1000 mg%) and over 10 g/l (1000 mg %) respectively [1].

Bibliography

1. Spechler S, Taylor M. Caustic ingestions. In: Taylor MB, editor. Gastrointestinal emergencies. 2nd edition. Baltimore (MD): Lipincott, Williams & Wilkins; 1997. p. 19-31.
2. «Медицинская токсикология» Национальное руководство под редакцией акад. РАМН Е.А. Лужникова. Москва. Издательство: группа ГЭОТАР - Медиа, 2012 – С.638-657.
3. Белькова Т. Ю. Современные принципы диагностики, комплексного лечения химических ожогов пищевода и желудка (сообщение 2) // Сиб. мед. журн. (Иркутск). 2001. №5.
4. Chirica M. et al. Esophageal emergencies: WSES guidelines. World J Emerg Surg. 2019 May 31;14:26. doi: 10.1186/s13017-019-0245-2.
5. Дробязгин Е. А., Чикинев Ю. В., Судовых И. Е. Рак пищевода после химического ожога. Хирургия. Журнал им. Н.И. Пирогова. 2019;(1):27-31. https://doi.org/10.17116/hirurgia201901127.
6. Rafeey M, Ghojazadeh M, Sheikhi S, Vahedi L. Caustic Ingestion in Children: a Systematic Review and Meta-Analysis. J Caring Sci. 2016 Sep 1;5(3):251-265. doi: 10.15171/jcs.2016.027. PMID: 27757390; PMCID: PMC5045959.

7. Песня-Прасолова Е.А., Ильяшенко К.К., Пинчук Т.П., Гуляев А.А. Комплексная оценка повреждений пищевода и желудка при острых отравлениях прижигающими жидкостями // Клинические перспективы гастроэнтерологии, гепатологии – 2006. - №5. – С. 32–35.
8. Hendrix, I. Emergency oesophageal stripping an aggressive approch to acute necrotic caustic burns of the oesophagus and stomach / I. Hendrix, A. Hubens, W. Van Hee // Acta. chir. belg. - 1990.- Vol. 90.- № 2.- P. 46–49.
9. Bonnici KS, Wood DM, Dargan PI. Should computerised tomography replace endoscopy in the evaluation of symptomatic ingestion of corrosive substances? Clin Toxicol (Phila). 2014 Nov; 52 (9):911-25. doi:
10. 3109/15563650.2014.957310. 10. Bahrami-Motlagh H, Hadizadeh-Neisanghalb M, Peyvandi H. Diagnostic Accuracy of Computed Tomography Scan in Detection of Upper Gastrointestinal Tract Injuries Following Caustic Ingestion. Emerg (Tehran). 2017;5(1):e61. Epub 2017 Mar 10. PMID: 28894776; PMCID: PMC5585831.
11. Contini S, Scarpignato C. Caustic injury of the upper gastrointestinal tract: a comprehensive review. World J Gastroenterol. 2013;19 (25):3918–30.
12. Bird JH, Kumar S, Paul C, Ramsden JD. Controversies in the management of caustic ingestion injury: an evidence-based review. Clin Otolaryngol. 2017 Jun;42(3):701-708. doi: 10.1111/coa.12819. Epub 2017 Jan 24. PMID: 28032947. 13. Keh SM, Onyekwelu N, McManus K, et al. Corrosive injury to upper gastrointestinal tract: still a major surgical dilemma. World J Gastroenterol. 2006;12(32):5223–8.
13. Betalli P, Falchetti D, Giuliani S, et al. Caustic ingestion in children: is endoscopy always indicated? The results of an Italian multicenter observational study. Gastrointest Endosc. 2008;68(3):434– 9.
14. Temiz A, Oguzkurt P, Ezer SS, et al. Predictability of outcome of caustic ingestion by esophagogastroduodenoscopy in children. World J Gastroenterol. 2012;18(10):1098–103.
15. Arici MA, Ozdemir D, Oray NC, et al. Evaluation of caustics and household detergents exposures in an emergency service. Hum Exp Toxicol. 2012;31(6):533–8.
16. Chirica M, Resche-Rigon M, Bongrand NM, et al. Surgery for caustic injuries of the upper gastrointestinal tract. Ann Surg. 2012;256(6):994–1001.
17. Bonavina L, Chirica M, Skrobic O, et al. Foregut caustic injuries: results of the world society of emergency surgery consensus conference. World J Emerg Surg. 2015;10:44.
18. Zerbib P, Voisin B, Truant S, et al. The conservative management of severe caustic gastric injuries. Ann Surg. 2011;253(4):684–8. 42
19. Chirica M, Resche-Rigon M, Pariente B, et al. Computed tomography evaluation of highgrade esophageal necrosis after corrosive ingestion to avoid unnecessary esophagectomy. Surg Endosc. 2015;29(6):1452–61.
20. Chou SH, Chang YT, Li HP, et al. Factors predicting the hospital mortality of patients with corrosive gastrointestinal injuries receiving esophagogastrectomy in the acute stage. World J Surg. 2010;34(10):2383–8.
21. Chirica M, Resche-Rigon M, Zagdanski AM, Bruzzi M, Bouda D, Roland E, Sabatier F, Bouhidel F, Bonnet F, Munoz-Bongrand N, Marc Gornet J, Sarfati E, Cattan P. Computed Tomography Evaluation of Esophagogastric Necrosis After Caustic Ingestion. Ann Surg. 2016;264(1):107–13.

22. Chirica M., Bonavina L., Kelly M. et al. Caustic ingestion. Lancet 2017 May 20;389(10083):2041-2052. doi: 10.1016/S0140-6736(16)30313-0.
23. Rizoyevna, H. L. (2023). Bosh Miya Shikastlanishida Miya Va O'pkaning O'zaro Ta'sirini O'rganish. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(10), 93-98.
24. Хасанова Д., Авезова Д.Б. (2023). Морфологические изменения, наблюдаемые в легких при хронической почечной недостаточности (эксперимент). Международный журнал педиатрии и генетики , 1 (3), 4–6. Получено с https://medicaljournals.eu/index.php/IJPG/article/view/47.
25. Авезова, Д.Б., и Ахмедова, FQ (2023). Латынь и медицина. Международный журнал формального образования , 2 (6), 352–355.