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FORMATION OF MEDIAGASTRIC ULCER IN JUDOIST DURING PHYSICAL TRAINING

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The case of mediagastric ulcer in judoist during physical training was analyzed. It has been investigated that patient during throw through back from a counter felt dull pain in epigastrium and in 3 days when he applied to a doctor, fresh mediagastric ulcer was revealed.

Key words: chronic non-atrophic gastritis, mediagastric ulcer, theory of “caustic alkaline slap”, vertical formation of ulcer.

Formation and manifestation of mediagastric ulcers during endoscopic examination occurs rarer than ulcers of duodenal zone [4, 5]. The main element of mediagastric ulcers is severe and acute increase of intra-abdominal pressure due to muscular traction of abdominal tension [4]. The case of formation of mediagastric ulcer in judoist during physical training is interesting and important in medical practice.

53 years old patient Z., judoist applied to a gastroenterologist in Center of Progressive Medicine and Rehabilitation «Rea+Med». This case was registered in 15.03.2010 and he complained of dull pain in epigastrium, which increased during physical training and fullness after meals.

After collecting anamnesis it was determined that clinical manifestations were occurred after planned training he felt dull pain in epigastrium in 2 hours.

When patient was 13 years old epigastric burnings occurred periodically after spicy food, but he did not apply to a doctor and took such antacids as – «Almagel A», «Phosphalugel», and also – «Gaviscon».

According to Order № 271 from 13.06.2005 of Ministry of HealthCare of Ukraine and our methods of treatment a patient took comprehensive examination (№ 73

15.03.2010), which included step-by-step pH-metry based on V. N. Chernobrovyi methods, esophagogastroduodenoscopy based on general techniques, helicobacter infection test (HP) (helicobacter urease test and microscopic examination of stained smears) and histological examination of stomach lining, biopsy material was taken from 4 topographical zones of the stomach (medial third part of antrum and body of the stomach through large and small curvature) [2, 5, 7, 9].

During pH-metry in patient acidity level corresponded to expressed hypoacidity.

pH metry (by V. N. Chernobrovyi method)

Full name, 53 years old

Height: 172 sm; it was taken: 20 sm

1. 6.40 5.64	11. 5.33 5.26
2. 6.40 5.44	12. 5.23 5.30
3. 6.45 5.40	13. 4.78 5.18
4. 5.91 5.40	14. 4.86 4.81
5. 5.52 5.31	15. 4.70 4.80
6. 5.50 5.30	16. 4.53 4.71
7. 5.48 5.40	17. 4.70 4.70
8. 5.38 5.21	18. 4.71 4.73
9. 5.21 5.20	19. 4.81 4.70
10.5.10 5.20	20. 4.83 4.42

5. –	–
4. –	–
3. –	–
2. –	–
1. 20	20
0. –	–

Total number: 20 20

Diagnosis: Basal Hypoacidity

Marked total (organic)

15.03.2010

During esophagogastroduodenoscopy diagnosis “Mediagastric ulcer in active stage” (in middle third part of stomach fundus through small curvature 4 × 2,5 sm, oval-shaped, with edematous edges, deep, fundus is covered by quaggy grey necrosis). Chronic gastroduodenitis (type B). Indirect signs of pancreatitis» was made.

Type of gastritis was approved by HP test

Antrum				Fundus of stomach			
Large curvature		Small curvature		Large curvature		Small curvature	
Microscopic analysis	Urease-test	Microscopic analysis	Urease-test	Microscopic analysis	Urease-test	Microscopic analysis	Urease-test
(-)	24 h	(-)	24 h	(+++)	15 min	(+++)	3 h,
	(-)		(-)	Active form mitosis		Active form, mitosis; Intracellular “re-pository”	10 min

During histological analysis the next data were received.

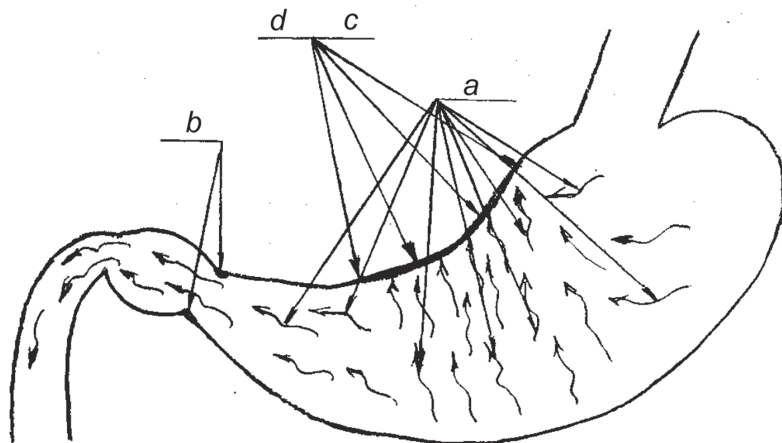
Biopsy № 411 from 15.03.2010.

- 1) **antrum** № 210 – 11: chronic quiescent gastritis (+++); atrophy of epithelium of glands (++);
- 2) **body of stomach, middle third part, large curvature** № 212-14: chronic active gastritis (+++);
- 3) **body of the stomach, middle third part, small curvature (edge of ulcer)** № 215-24: chronic active gastritis (+++), atrophy of epithelium of glands (+); purulent and necrotic masses.

This case can be explained as chronic non-atrophic gastritis and mechanism of mediagastric ulcers formation. The first manifestations of burning in 13 years old

(adolescent age), i.e. in period of puberty, can be connected with destabilization of immune system, which is closely related to the endocrine system, which led to the activation of an already existing chronic gastritis, which proceeds latently [4]. Further immunity decreased severely during training, pre-contest preparations, and during participation in them and after that as a coach [8, 11–13]. Suppression of immune response of an organism which is a factor of HP-infection formation, and causes the increase of the stage of contamination with *Helicobacter* infection of stomach lining, and decrease of acidity level as a consequence of long-lasting psycho-emotional stress (syndrome «fatigue of parietal cells») leads to increase of natural translocation of *Helicobacter* infection from antrum to fundus of the stomach [1, 4]. 53 years old patient had the third stage of development of chronic non-atrophic gastritis. This stage presents initial changes of the structure of glands of stomach lining and formation of functional hypoacidity when HP-infection completely migrated on lining of body and formed such situation as: at high stage of contamination with *Helicobacter* infection – (+++) through large curvature bacteria were located on the surface of lining and through small curvature the major part of them was situated in intracellular «repository» [4].

Schematically the mechanism of ulcer formation can be present in such way (Picture).



The mechanism of mediagastric ulcer formation:

a – direction of “rest” ammonia in gastric cavity; *b* – pyloric sphincter in patulous status; *c* – places of maximal concentration of “rest” ammonia (medial third part upper third part of the stomach through small curvature); *d* – places of ulcer damages (tissues of middle third part upper third part of body stomach through small curvature)

“Rest” ammonia as a product of HP-infection activity which did not receive neutralization of hydrochloric acid among bacteria and accumulated in gastric cavity is concentrated in body of stomach due to decrease of volume of stomach during physical exertion (muscle abdominal tension during throw), so “rest” ammonia directed vertically bottom-up because abdominal muscles contracting bottom-up caused direction gas into stomach: from lining of large curvature of stomach body where active forms of HP were located intracellularly at concentration (+++), in direction into lining of small curvature of body stomach where active forms of HP localized intracellularly at concentration (+++), blocking acid-forming function of parietal cells that deprived this zone of neutralizing action of acidic protection from caustic alkali – as hydrous ammonia which is formed in the area of small curvature at high gastric pressure and contains ammonium hydroxide at high concentration [4]. Type of ulcer is confirmed by this fact. It is large and deep, with marked inflammatory wall, fundus was covered with loose grey necrosis [5] that is characterized by damage of strong caustic alkalies. Tissues have massive damage as a consequence of deep alkalies penetration into tissue with formation of loose colligated necrosis while during lining damage of hydrochloric acid dry coagulative necrosis of dark brown or brown-black

color is formed [4, 10], that was confirmed by experimental way when at intake of 2,5 % of hydrous ammonia in rats stomach lining in 12 hours damages were formed and they were considered as ulcers during histological analysis [6].

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ФОРМУВАННЯ МЕДИОГАСТРАЛЬНОЇ ВИРАЗКИ У СПОРТИВНОГО ТРЕНЕРА З БОРОТЬБИ ДЗЮДО ПІД ЧАС ПЛАНОВОГО ТРЕНУВАННЯ

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Проаналізовано випадок формування медіогастральної виразки у спортивного тренера з боротьби дзюдо під час планового тренування. З'ясовано, що пацієнт під час показового кидка через спину із стійки відчув тупий біль в надчеревній ділянці, а при зверненні до лікаря через 3 дні після тренування у нього виявлено свіжу медіогастральну виразку.

Ключові слова: хронічний неатрофічний гастрит, медіогастральна виразка, теорія «їдкого лужного плевка», вертикальний шлях формування виразки.

ФОРМИРОВАНИЕ МЕДИОГАСТРАЛЬНОЙ ЯЗВЫ У СПОРТИВНОГО ТРЕНЕРА ПО БОРЬБЕ ДЗЮДО ВО ВРЕМЯ ПЛАНОВОЙ ТРЕНИРОВКИ

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Проанализирован случай формирования медиогастральной язвы у спортивного тренера по борьбе дзюдо во время плановой тренировки. Выяснено, что пациент во время показательного броска через спину со стойки почувствовал тупую боль в эпигастральной области, а при обращении к врачу через 3 дня после тренировки у него выявлена свежая медиогастральная язва.

Ключевые слова: хронический неатрофический гастрит, медиогастральная язва, теория «едкого щелочного плевка», вертикальный путь формирования язвы.