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CHARACTERISTICS OF DUODENAL ULCER IN ELDERLY PEOPLE (LITERATURE REVIEW)

T.L.Gorshenin, A.I.Mogila, I.S.Smigelsky, N.S.Romanenkov, K.I.Rusakevich, V.V.Koloskov

St. Petersburg State Health Care Institution (SHCI) «Hospital for Wars Veterans», St. Petersburg, tgorshenin@mail.ru
SHCI «Regional Clinic Hospital», Oryol

There were analyzed the data given by different authors about the frequency of occurrence, specific pathogenesis, clinical progression of duodenal ulcer in patients of elderly and senile age. In the pathogenesis of peptic ulcer in elderly age alongside infectious link attenuation of the protective mechanisms of the mucous membrane of the stomach and duodenum plays a major role. The clinical picture of active duodenal ulcer is different from the manifestations which are characteristic for younger patients.

Keywords: duodenal (peptic) ulcer, duodenum, elderly and senile age

Проанализирована частота встречаемости, особенности патогенеза, клинического течения язвенной болезни двенадцатиперстной кишки у больных пожилого и старческого возраста. В патогенезе язвенной болезни в пожилом возрасте, наряду инфекционного звена, большую роль играет ослабление защитных механизмов слизистой оболочки желудка и двенадцатиперстной кишки. Клиническая картина обострения язвенной болезни отличается от классической, характерной для молодого контингента больных.

Ключевые слова: язвенная болезнь, двенадцатиперстная кишка, пожилой и старческий возраст

Duodenal ulcer is a chronic, cyclic flow disease, a characteristic feature of which is a formation of ulcerous defects in the mucosa of the duodenum during the growing acuteness. Despite the improvement of medical diagnostic techniques, duodenal ulcer among the diseases of the digestive system continues to be one of the most frequent causes of health encounter by patients. This is stated both in Russia and in other countries. In particular, in 2003, the prevalence and incidence in Russia amounted to 1,807,935 and 164,798 respectively (per 100 000 of population — 1260.3 and 114.9) [1].

The peak growth rates of duodenal ulcer disease is stated in the groups of the population aged 18-25 years old and peaks among people of 35-40 years old (62.6%). In 74.6% of cases duodenal ulcer disease is stated in people whose age does not exceed 40 years old. Duodenal ulcer verified in 6 — 10% of the world's population [2,3].

In Western Europe, cases of duodenal ulcer are annually registered in 0,1-0,3% of people over the age of 15 years old[3]. In the USA in 10% of cases among adults there can be stated gastric ulcer or duodenal ulcer morbidity based on the study of the data from medical history [4].

Duodenal ulcer disease is a disease that predominantly affects men. The ratio between men and women ranges from 2:1 to 7:1, and an average is 4:1. Over the last years there has been a clear convergence of these indicators at the expense of more frequent cases of duodenal ulcer among women. Analysis of data on the distribution of duodenal ulcer disease, taking into account age and sex, gives an indication that in general the disease occurs in all age groups. In the sources of the scientific literature there is information about the observed shifts in the structure of duodenal ulcer disease over the past 10-15 years based on patients' age [1,2]. These changes occur in two directions. On the one hand, there is «rejuvenation» of duodenal ulcer cases. On the other hand — there is an increase in the incidence of «senile» ulcers, when the first signs of the disease are ascertained in people aged 50-60 years old and older. In elderly age duodenal ulcers occur in 1,7 times, and in senile age — 3 times less likely than gastric ulcer [5,6]. In elderly patients there are two ways of the disease development. Firstly, they point long-term duodenal ulcer disease, which originated in young and middle age and retained frequency of alternation of exacerbations and remissions in elderly patients. The share of this option come from 30 to 50% of all cases of duodenal ulcer disease in elderly people. Secondly there are ascertained cases of «late» ulcers that occurred at an age above 60 years old [5-7]. In women the frequency of duodenal ulcer disease increases after the onset of menopause. The urban population suffers from duodenal ulcer disease more often than rural [8].

According to V.T.Ivashkin, A.A.Sheptulin [7], patients aged 60 years old and older make at least 10% of all patients with duodenal ulcer. The population over the age of 60 years old of the planet has increased over the past few years, which causes the increase of morbidity rate of duodenal ulcer in patients of older age groups.

In elderly patients an ulceration in the duodenum occurs against a background of other long-existing illnesses that tend to result in gastroduodenal mucosa hypoxia. In 30% of patients in the age of 60 years old and older the disease proceeds with a distinct pain syndrome and high indicators of intragastric acidity [9].

In general, polymorbidity is representative for the elderly and senile aged people. On average each patient, whose age is 61 years old or more, have almost six 6 nosological forms of simultaneously occurring illnesses.

Objectively evaluate the influence of comorbidity on the course of duodenal ulcer disease is difficult, because so far there are no adequate systems for evaluating of co-existing diseases, as it is customary in patients in critical states [10]. However, it is obvious that the structure of comorbidity of diseases of internal organs in the elderly population, according to the national authors, almost in 52% of cases we can state the combination of duodenal ulcer disease and ischemic heart disease.

[10,11]. This circumstance often leads to delayed diagnosis of duodenal ulcer due to its atypical course, which increases the number of complications of the disease. Duodenal ulcer disease in elderly people with coronary heart disease often first manifests pattern of gastrointestinal bleeding, which is usually detected in later stages from the beginning [10,11].

Pathological changes in vessels of a stomach and duodenum also play a certain role in the development of dystrophy and atrophy of the mucous membrane of these organs, promoting them in ulcerative erosive defects. Most often in the elderly duodenal ulcer develops in the presence of atherosclerosis vascular digestive tract. Herein abuse of nonsteroidal anti-inflammatory drugs plays the greater role. The incidence of death from bleeding ulcer-term etiology in elderly patients in these cases may reach 20-40% [12,13].

Duodenal ulcers in the majority of elderly patients proceed with an erased clinical picture and often manifest complications, the frequency of which increase from 31% (aged 60-65 years old) to 76% (aged 75-80 years old) [14-16].

Ulcers, first appeared in elderly age, are characterized by specific clinical picture [17]. First of all, an unexpressed pain and dyspeptic syndromes are noted. Elderly patients may often have no the frequency of pain and their relationship with food intake, as well as the seasonality of exacerbations [7]. Patients of elderly age group may have larger size of ulcers compared with those of young people and mature age. In more than 30% of cases, the size of ulcers can be attributed to a large or «giant». In patients of older age groups, suffering from duodenal ulcer, the incidence of gastrointestinal bleeding almost twice higher than that in young and middle age. In contrast to young patients in patients of older age groups with duodenal ulcer disease are often observed especially in the neuro-psychic status. In most cases, this manifests a decrease in excitability of autonomic nervous system. There is also a decrease in reactivity of the nervous system [18,19].

In elderly patients duodenal ulcer disease has not only the clinical and morphological features, but also the specific pathogenic mechanisms ulceration. In particular in the formation of gastroduodenal pathology in the elderly people there has been proved the role of H.pylori. Although these data are scarce, but we can assume that H. pylori as an etiological factor in elderly patients is of particular importance [20-23]. H. pylori is found in 90-95% of cases of duodenal ulcer [24, 25, 26]. In Russia, the average H. pylori infection rate of the adult population is more than 80%, and the frequency of verification of this microorganism increases with age [27]. According to other authors [28,29], the frequency of infected H. pylori of elderly people is about 40-60% of people who are not suffering from diseases of the upper gastrointestinal tract and reaches more than 70% for gastro-duodenal pathology. In developed countries H. pylori infection rate is 16.5% in children, 20% in adolescents and increases with age, an average of 1% per year and reaching the level of 50-60% in elderly people [30]. NP-infection is stated in 85-95% of patients with duodenal ulcer disease [31,32].

In the pathogenesis of «late» duodenal ulcer disease in elderly and senile people the factors that contribute to weakening of the protective properties of the gastroduodenal mucosa play a special role [5,6,33]. Basic characteristics of the stomach function: decrease of the amount of secretion rates of gastric acidity, the production of hydrocarbons, gastromukoprotein, are changed in elderly patients with peptic ulcer. Moreover, there is a significant reduction in secretion fukoglikoprotein, slowing of the mucin secretion, prostaglandin E2, epidermal growth factor [15,34]. These changes in morphology and function of gastric mucosa and duodenum in the aging human body are developed against incremental weakening of the tissue and cellular respiration, lack of high-energy compounds formation, energy resources in cells and tissues, reduction of protein synthesis [14,33].

An important link in the development of peptic ulcer disease and its complications with aging organic mechanism is the reduction of general and local immunity [20,35]. Mucosa of the gastrointestinal tract is one of the most important barriers of the body, preventing entry of the internal antigens into the internal environment. In patients with duodenal ulcer disease a violation of this barrier is noted fairly often, that leads to the entrance of unsplit or partial split of food proteins and waste products of microorganisms to the blood channels. The penetration of antigens in the mucosa of duodenum leads to the development of immune complex inflammation. Circulating in the blood antigens sensibilize not only the mucosa gastroduodenal zone, but the whole organism, causing changes both cellular and humoral immunity [20,21]. There is a marked decrease of the function of T cells, decrease of CD4 + T cells, reducing the reactivity of T lymphocytes to the stimulating effects of interleukin-2 and decrease in memory lymphocytes. [20,36-38]. Several authors have concurred that the level of immunoglobulins in the blood depends on the age of the patients with a duodenal ulcer, the phase of pathological process, duration and severity of illness, and even the time of year [39-41]. In turn, disregulation of the immune system supports the destructive-inflammatory changes in the area of the ulcer and inhibits the proliferative phase of the regeneration process, which is due to not only violation of the synthesis of structural proteins, but also the synthesis of molecules of cell-to-cell cooperation [42]. There is stated that in blood serum of elderly patients with peptic ulcer during the recrudescence period the concentration of tumor necrosis factor-alpha increases the norm tripled. Characteristically, after a standard course of treatment its level returns to normal values [43]. This circumstance, in the author's opinion, can be used as a helpful informative criterion for the effectiveness of treatment of duodenal ulcer, in particular for the differential diagnosis between the stages of clinical- endoscopic and true remission.

Considering the importance of an immune component in the pathogenesis of duodenal ulcer disease, a number of authors draw attention to the advisability of including immunomodulators in the basic antiulcerous therapy in elderly and senile patients [44].

With age, people have different intensity of neyrogumoral regulation, the ratio of the activity of prooxidant and antioxidant systems, indicators of surface hydrophobicity of the mucosa, the intensity of biosynthesis of prostaglandins, which is an essential component of the protective system of gastroduodenal mucosa [5,23]. During the

aging the ration in the dominance of vegetative nervous system change, particularly sympathetic system predominates over parasympathetic in people of older age groups. On the background of increased overall activity of adrenergic system in elderly and senile patients prevalence of inhibitory effects of α-adrenoreceptor is observed, which is accompanied by a decrease in the trophic mucosa of the stomach and duodenum [6]. A number of researchers believe that the formation of ulcers and erosions in elderly patients is due to violation of the microcirculation in the mucosa of the duodenum, and the main factors of aggression are hypoxia and related atrophy and metabolic disorders [5,33]. The significance of these factors (primarily atherosclerotic changes in the vessels of the stomach, reducing its trophic mucosa) becomes particularly noticeable in those cases when the disease develops independently of the H. pylori [45-47]. Peptic ulcer disease in elderly patients often develops in the presence of diseases that contribute to microcirculatory disturbances in the gastric mucosa (hypertension-crystal disease, coronary heart disease, chronic nonspecific lung diseases, diabetes) [6,7].

Results of therapy in patients with duodenal ulcer of different age groups are also mixed. Many researchers believe that duodenal ulcer in elderly and senile patients is characterized by a refractory to «traditional» methods of treatment [5,28,40]. In patients of older age groups the reduction of pain and dyspeptic syndromes during exacerbation of the duodenal ulcers occurs slower than in younger patients. Ulcers heal for a long time and not in all cases we are able to reach their full scarring. Healing of duodenal ulcers in elderly patients is often occurs with the formation of rough scar, which in turn leads to a pronounced strain of pyloroduodenal zone and its stenosis. In the treatment of peptic ulcer disease in elderly patients the schemes of antiulcer therapy recommended by the European Association of Gastroenterology (Maastricht III - 2005) are used. However, the appointment of eradication therapy, taking into account the fact that in elderly and senile age drugs metabolizm implements slower than in younger patients, and normal doses of drugs pose a high concentration of the drug, it is recommended to use lower doses of antibacterial means. In particular, according to Minushkin O.N. [28], using half-dose clarithromycin and amoksiklav efficacy of eradication was not less than 86%.

Thus, analysis of the data of many researchers suggest that people of elderly and senile age demonstrate the features of the pathogenesis and clinical picture of duodenal ulcer. These data are the subject of particular discussion and debate at scientific forums. There is no a single point of view at the course of ulcer formation processes and characteristics of clinical manifestations of peptic ulcer disease in patients with elderly among the researchers. The increase of the number of patients with duodenal ulcer disease, which is noted in recent years in Russia (especially in a group of elderly patients), allows us to predict a high probability of risk of deaths due to complications of duodenal ulcer in this category of patients. Therefore, the study of issues of surveys and treatment of elderly patients, patients with chronic duodenal ulcer, is an important goal of modern medical science and practice.

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