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INFLUENCE OF STANDARD RISK FACTORS ON DEVELOPMENT OF NSAIDs - INDUCED GASTRIC AND DUODENUM ULCERS IN PATIENTS OF THE VARIOUS ETHNIC GROUPS LIVING IN YAKUTIA

A.P. Fedotova, L.G. Chibyeva

Dependence of gastroduodenal ulcers revealing in patients of the indigenous and non-indigenous nationalities taking non-steroidal anti-inflammatory drugs (NSAIDs on risk factors of NSAIDs – gastropathy was estimated. It is revealed that the risk of development of ulcers in patients of the indigenous nationality increases at taking of non-selective NSAIDs, aspirin and cardiovascular pathology. Smoking and taking of glucocorticoids do not increase risk of development of ulcers in patients of non-indigenous nationality.

Keywords: risk factors, gastric ulcer, non-steroidal anti- inflammatory drug gastropathy.

Introduction

Erosive -ulcerous lesions of gastroduodenal zone and their dangerous complications (bleedings, perforation), caused by taking of non- steroidal anti-inflammatory drugs (NSAIDs), are a serious medico-social problem. To predict development of NSAIDs – gastropathy is possible due to the so-called risk factors revealed at the analysis of retrospective researches data of the big groups of patients with this pathology [5, 8, 9, 15]. Presence of similar factors

associates with augmentation of risk of serious complications from a part of gastrointestinal tract (GIT) at population level. According to the data of epidemiological researches, the ulcerous anamnesis, advanced age (65 years and elder), and also concomitant taking of low doses of aspirin, anticoagulants and glucocorticoids (GC) are major factors of risk of GIT dangerous complications at NSAIDs taking [4]. Value of risk factors for development of endoscopic ulcers in the conditions of Yakutia has not been studied.

The purpose of the present research was the assessment of frequency of ulcers revealing in rheumatic patients in the various ethnic groups living in Yakutia, taking NSAIDs, depending on presence of risk factors of non-steroidal anti- inflammatory drug gastropathy.

Materials and methods

261 patients with various rheumatic diseases, passed through esophagogastroduodenoscopy (EGDS), were investigated. Patients took NSAIDs not less than 1 month before EGDS. All patients have been divided into 2 groups.

The 1st group - 131 patient of indigenous nationality (Yakuts): the mean age was 53, 82 years (range, 19 - 82 years).

The 2nd group-128 patients of non-indigenous nationality (the persons of other nationality who have arrived at various times from Russian Federation regions) from 20 till 84 years (mean age – 59.80 yrs). The interrelation of men and women in the 1st group was 1:2.4; in the 2nd - 1:3. Mean age of women of the 1st group – 55.41 yrs, the 2nd - 61.78 yrs. Mean age of men accordingly – 49.95 and 53.84 yrs.

88.5 % of patients of the 1st group have osteoarthrosis, 8.5 % - rheumatoid arthritis, ankylosing spondylitis, 3.0 % psoriatic and reactive arthritis. 95.4 % of patients of the 2nd group took NSAIDs because of osteoarthrosis, 4.6 % - rheumatoid arthritis.

In the 1st group there were 26 patients senior 65 years (19.8 %), in the 2nd one - 53 (41.4 %).

Criteria of an exception from research were presence of rheumatic disease at which the digestive tract lesion is one of characteristic clinical manifestation (system scleroderma, Sjögren's syndrome, Behchet's syndrome, system vasculitis).

For object in view achievement complaints, the anamnesis of patients, results of overall clinical researches are studied, in all cases EGDS is made. EGDS was held under the practical standard with use of modern models of endoscope Olympus gif-10, gif - 20. As now there is no rating scale of EGDS data, specific for gastroduodenal damages induced by NSAIDs taking, the standard assessment of a state of mucosa of the gastrointestinal tract upper portion has been made.

Reliability of distinctions of quantitative parameters was estimated by means of the Student t-test.

Results and discussion

Gastric and-or a duodenum ulcers have been revealed in 11.4 % of patients of 1st group and 15.6 % of patients of 2nd group which were taking NSAIDs. In both groups ulcers are found in 80 % of women and 20 % of men. The specified fact is in full conformity with the data of statistical researches which testify to domination of women at the disease [1]. In patients of both groups ulcers were mainly localized in a stomach. In 1st group of patients in 86.7 % of cases ulcers of antrum and only in 13.3 % duodenum bulbus are found. In 2nd group gastric ulcers are revealed in 55 % of cases, in the others (45 %) - duodenum bulbus. Essential distinctions between groups on localization of ulcer depending on sex have been revealed: in the indigenous men and women gastric ulcers were met in 100 and 83.3 % accordingly, and in the non-indigenous patients - in women gastric ulcers are found more often (62.5 %), than duodenal, in men, on the contrary, duodenum ulcers (75 %) dominated.

In research groups 26.7 and 30 % of all revealed gastroduodenal ulcers accordingly is the share of persons senior 65 years. Thus in patients of 1st group ulcers of only gastric localization are found, and in 2nd group - gastric and duodenal ulcers have been revealed equally often.

According to the literature, peptic gastroduodenal ulcers induced by NSAIDs taking, generally appeared at advanced age, more often in women, affect mainly stomach, not duodenum [11, 16].

On number of ulcerous lesions in both groups patients with the single ulcers (75 and 93.8 % accordingly) prevailed. About 91.7 % of patients of 1st group and 56.3 % of 2nd group had the dimension of ulcers <10mm, and 8.3 and 43.8 % accordingly - > 10mm. The dimensions of ulcerous defect in stomach surpassed the dimensions of duodenal ulcers.

The factors influencing development of erosive-ulcer damages of the upper departments of a gastrointestinal tract:

Age of patients. Mean age of patients in which ulcerous damages of stomach and duodenum have been found, was 55.13 years in 1st group, in 2nd group – 58.80 years.

Frequency of revealing of ulcers in various age groups is presented on fig. 1, from which it is visible that the number of patients with this pathology increases in 1st group among individuals from 18-35 years till 50-64 years, and in 2nd group - from 18-35 years till 65 years and senior. In patients of 1st group at the age of 50-60 years frequency of gastroduodenal ulcers occurrence has made 15.7 %, and at the age till 50 years – 3.2 %. In 2nd group of patients senior 65 years frequency of ulcerous damages of stomach and duodenum was authentically higher, than in younger: 41.4 and 39.8 % accordingly ($p < 0,001$).

The data obtained by us confirm that the age is one of the most important factors influencing development of NSAIDs -induced ulcers [2, 4, 7, 9].

The ulcerous anamnesis. Presence of the ulcerous anamnesis (ulcer revealed earlier according to EGDS) 7.6 % of patients of 1st group and 18 % of 2nd group have noted. Ulcers in the patients of 1st group who did not have the ulcerous anamnesis, were met authentically more often (11.6 %), than in persons with the ulcerous anamnesis (10 %) ($p<0,001$). In 2nd group gastroduodenal ulcers in patients with the ulcerous anamnesis were met almost in 2 times more often, than in not having it: 26.1 and 13.3 % accordingly ($p < 0,05$).

NSAIDs selectivity. The overwhelming majority of patients – 68.2 and 77.2 % accordingly took not selective NSAIDs (n- NSAIDs) while 31.8 and 22.8 % of patients took selective inhibitors of cyclooxigenase (COG-2). The doubtless leader is Diclofenac - it was taken by 64.7 and 70.9 % of patients accordingly. Unfortunately, the investigated more safe selective inhibitors (COG-2) used significantly rarely. Patients of the 1st group most often took Meloxicam (22.3 %), the 2nd group – Nimesulide (20.3 %). Selective inhibitors (COG-2) took accordingly 9.1 and 16.7 % of patients with the ulcerous anamnesis. Frequency of revealing of ulcers in patients of both groups was authentically lower at taking of s-NSAIDs, than n-NSAIDs. So, among the patients who are taking selective NSAIDs, this pathology has been revealed in 12.5 % of patients of both groups, and among taking n- NSAIDs - in 18.4 and 29.8 % accordingly ($p < 0,001$).

Our data confirm modern representation that the lower selectivity of a drug concerning COG-2 the higher probability of development of GIT pathology at its application.

Application of glucocorticoids (GC). 7.6 % of patients of the 1st and 5.5 % of patients of the 2nd group took NSAIDs in a combination with GC (mainly low doses which are not exceeding 10 mg in Prednisolone equivalent). In the patients of both groups combining NSAIDs use with GC, ulcers have been found authentically less often (10 and 14.3 %), than in the patients who were not taking NSAIDs in a combination with GC (11.6 and 15.7 %) ($p < 0.05$).

Thus, concomitant GC use did not influence frequency of revealing of gastric and DD ulcers in the patients of both groups.

Application of cytotoxic drugs. NSAIDs taking with cytotoxic drugs (mainly Metotrexat in a dose from 5 to 15 mg/week) combined 11.5 and 4.7 % of patients accordingly. Authentically high is frequency of ulcerous damages of stomach and DD mucosa in the patients of the 1st group taking NSAIDs only, in comparison with those who took NSAIDs in a combination with Metotrexat (12.1 and 6.7 %) ($p < 0.05$). In the patients of the 2nd group who were taking NSAIDs

with cytotoxic drugs, gastric and DD ulcers have been revealed authentically more often (16.7 %), than in the patients taking NSAIDs only (15.6 %) ($p < 0.05$).

Thus, our data has not confirmed a role of cytotoxic drugs in formation of gastric and / or DD ulcers in the indigenous patients.

Application of antiaggregate aspirin doses. The part of patients took aspirin in low, antiaggregate doses (21.4 and 21.9 % accordingly). Gastric and / or DD ulcers have been revealed in 7.9 % of patients of the 1st and 25 % of the 2nd group which were taking NSAIDs in a combination with low doses of aspirin that was authentically higher, than among the patients who were not receiving concomitant therapy by this drug - 9.7 and 13 % accordingly ($p < 0,001$).

Value of aspirin application as the serious risk factor considerably raising probability of development of a gastrointestinal bleeding and endoscopic ulcers is of no doubt [5,9,18].

Concomitant diseases. The concomitant pathology is diagnosed for 36.6 % of patients of the 1st group and 43 % of the 2nd from which 50 % are due illnesses of blood circulation system. Gastric and / or DD ulcers appeared authentically more often in the patients of both groups having concomitant diseases (14.6 and 16.4 % accordingly), than in not having them (9.6 and 15.1 % accordingly) ($p < 0,05$).

Frequency of a combination of erosive-ulcer lesions of gastroduodenal zone and arterial hypertension is from 3.4 % [3] to 50 % [13, 14], and on own supervision - 17.6 and 19.8 % in investigated ethnic groups.

Gastric and / or DD ulcers have been revealed in 20.8 % of patients of the 1st group with blood circulation diseases that was authentically higher, than in the patients who did not have these concomitant diseases (9.3 %). In the 2nd group ulcers of stomach and DD mucosa in 28.6 % of cases accompany cardiovascular diseases that also is authentically higher than in the persons who did not have pathologies of cardiovascular system (12 %) ($p < 0,001$).

Results of our research confirm the literature data which testify that erosive-ulcerous changes of gastroduodenal mucosa in 20-30 % of cases accompany such cardiovascular diseases, as ischemic heart disease, hypertension and system atherosclerosis [12].

Smoking. Smoking patients were rather a few – 9.2 % and 9.4 % accordingly, however among men of both groups this percent was considerably higher – 15.8 and 26.5 %, while among women - only 6.5 and 4.1 % accordingly. Ulcerous gastroduodenal lesions have been revealed in 25 and 16.7 % of smoking patients of the 1st and 2nd groups accordingly. In non-smoking patients gastric and DD ulcer are found in 10.1 and 15.5 % accordingly. There was no authentic difference in frequency of occurrence of ulcers in smoking patients of both groups: 25 and 10.1 %; 16.7 and 15.5 % ($p > 0.05$).

Smoking, as risk factor of NSAIDs gastropathy development, potentiating ulcerous action of NSAIDs, has not proved to be true.

Conclusion

The risk of NSAIDs- induced ulcers development in the indigenous patients increases at use of non-selective NSAIDs, concomitant use of aspirin in low doses and presence of cardiovascular pathology.

Smoking and combined GC application do not increase risk of gastroduodenal ulcers development in the non-indigenous patients.

In the indigenous patients who are taking NSAIDs, ulcerous lesions of stomach mucosa are formed for one decade earlier, than in the non-indigenous.

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Authors of article:

Fedotova Ajtalina Petrovna, doctor - gastroenterologist of the highest category, Polyclinic №1, Yakutsk.

Chibyeva Lyudmila Grigorevna, MD, professor, Northeast Federal University, Medical institute, Yakutsk.