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THE EFFECT OF THE PRESENCE OF DIABETES MELLITUS ON CLINICAL COURSE OF CHRONIC PANCREATITIS BY M-ANNHEIM SCORING SYSTEM

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Rezumat

Efectul diabetului zaharat asupra evoluției clinice a pancreatitei cronice conform clasificării M-ANNHEIM

Pancreatita cronică este o boală dificil de diagnosticat şi de tratat. Scopul studiului a fost de a evalua severitatea pancreatitei cronice prin clasificarea M-ANNHEIM conform prezenței insuficienței pancreatice endocrine. Au fost analizate prezența insuficienței pancreatice excretorii şi incretorii, schimbările structurale ale pancreasului prin ultrasonografie, coprogramă, nivelul de hemoglobină glicozilată în sânge, numărul complicațiilor la 38 de pacienți cu PC(grupul 1) şi pancreatită cronică asociată cu diabet (grupul 2). Corelația strânsă dintre gradul de severitate al PC în clasificarea M-ANNHEIM şi criteriile obiective de leziuni cronice ale pancreasului demonstrează informativitatea sa înaltă, care este noutatea studiului nostru.

***Cuvinte-cheie**: pancreatită cronică, diabet zaharat, clasificare M-ANNHEIM, grad al pancreatitei cronice*

Резюме

Влияние сахарного диабета на клиническое течение и тяжесть хронического панкреатита в соответствии со шкалой M-ANNHEIM

Хронический панкреатит (ХП) относится к заболеваниям, которые сложно диагностировать и лечить. Целью исследования было оценить тяжесть хронического панкреатита в соответствии с классификацией M-ANNHEIM в зависимости от эндокринной недостаточности поджелудочной железы (ПЖ). Были проанализированы: структурные изменения ПЖ по ультразвуковым критериям, копрограмма, уровень гликозилированного гемоглобины, частота осложнений у 38 больных ХП без и с сопутствующим сахарным диабетом. Была выявлена тесная корреляция между тяжестью ХП по классификации M-ANNHEIM и объективными критериями хронического поражения поджелудочной железы. Наличие эндокринной недостаточности ПЖ осложняло тяжесть заболевания в соответствии со шкалой M-ANNHEIM, коррелируя с нарушениями копрограммы ($r=0.702$; $p<0.001$), ультразвуковыми критериями ($r=0.55$; $p<0.05$), уровнем гликозилированного гемоглобины ($r=0.678$; $p<0.01$).

***Ключевые слова**: хронический панкреатит, сахарный диабет, шкала M-ANNHEIM*

Introduction

Chronic pancreatitis (CP) is the disease difficult to diagnose and treat. This is due to the low sensitivity of the tests and functional imaging techniques pancreas. The problem of diagnosing chronic pancreatitis cannot be considered solved. CP remains a difficult problem of clinical medicine and surgery, as in many

cases accompanied by severe complications and fatal. This is obviously due to the fact that CP is polyetiological disease because in its development play role several reasons [1]. Among them, there are the most important external toxins, metabolic changes, mediated immune factors, congenital and acquired pancreatic duct structure and others. [2]. Secretory and incretory sections of pancreas damaged at the CP, which leads to the concomitant diabetes mellitus (DM) on the later stages, course of which in this disease is studied insufficiently. It occurs in 10-90% of patients with CP [5, 8]. Such a large difference of the literature data about the frequency of diabetes in CP is associated with a different probability of endocrine disruption in various forms of pancreatitis [4, 7].

For today the evaluation criteria of the CP and CP with concomitant diabetes severity, depending on the severity of violations of excretory and incretory function of pancreas remain unclear until the end. In the world practice, to explore the severity of CP the scoring system M-ANNHEIM has been successfully used, which takes into account the multiplicity of the risk factors for CP [3]. Multifactor classification M-ANNHEIM is simple, objective, accurate, does not demand many invasive diagnostic methods that take into account the etiology, disease stage and severity of the clinical course, which opens new perspectives of a wider application in practice of the family doctor. The causal nature of the CP manifestations based on the clinical stage, disturbance of endo- and exocrine functions of the pancreas on the background DM, frequent and severity of complications are shown in the works [9, 10]. The evaluation of the CP severity by the M-ANNHEIN system [11, 12] considered only the severity and frequency of the pain syndrome manifestations and do not take into account the presence of concomitant DM with the development incretory and excretory insufficiency of the pancreas.

The purpose of the research was to assess the severity of chronic pancreatitis by the classification of M-ANNHEIM according to availability of endocrine pancreatic insufficiency.

Patients and methods

Were examined 38 patients (19 men and 19 women) with a diagnosis of CP, from them – 19 with CP and 19 – with CP and DM. The average age was 49.8 ± 2.2 years. The average age of patients with CP was 45.3 ± 3.4 years (8 men and 11 women), and patients with CP and DM – 54.4 ± 2.5 years (11 men and 8 women). The diagnosis of CP and DM was verified in accordance with the generally accepted criteria in the clinic [6].

CP severity was assessed by the system M-ANNHEIM based on the clinical stage and severity index. It was analyzed the presence of excretory and incretory pancreatic insufficiency, structural changes of the pancreas by ultrasound criteria, coprogram, the level of glycosylated hemoglobin in the blood, the number of complications. Evaluation of the coprogram conducted by increasing the number of muscle fibers, fiber that is digested, fatty acids, neutral fat, white blood cells, the appearance of mucus helminthic eggs. Each pathological feature was estimated as 1 point. Statistical significance of differences was assessed by averages Student t-criteria ($p < 0.05$).

Results

Patients were divided into 2 groups: patients with CP and CP with concomitant diabetes. By classifying M-ANNHEIM all patients belonged to the diagnostic category "defined" CP. 16 of the 38 study patients (42.11%) had II B, 3 patients (7.89%) – II C, 15 patients (39.47%) - III A and 4 patients (10.53%) – III B clinical stage.

Learning pain syndrome in the study patients showed that in 42.10% of patients with CP pain stopped when taking analgesics (2 points). In 52.64% pain had a recurring character, which corresponded to 3 points. There were times when pain was absent, regardless of the presence or absence of drug treatment in 5.26% of patients with CP – pain consistent with both 2 and 3 balls. At 21.05% of patients with CP with concomitant DM the pain abated after administration of analgesics (2 points) and in 78.95% of patients the pain had a recurring character, which corresponded to 3 points. Control of pain was assessed according to the classification of M-ANNHEIM in 1 point in all patients (100%), since all patients received narcotic analgesics.

Surgical treatment performed in 10.53% of patients with CP, and in patients with CP with concomitant DM – 26.31%, and two of them were carried out repeated operations.

In the most patients with CP with concomitant DM – 57.89% – proven exocrine insufficiency was observed, which corresponded to 2 points, in 42.11% – the presence of moderate exocrine insufficiency which did not need replacement enzyme therapy (1 point). In patients with CP 84.21% had proven – (2 points) and 15.79% – mild (1 point) – exocrine insufficiency. Patients without failure of pancreas functions in the research were not present.

Endocrine insufficiency was assessed in the absence or presence of DM and was found in 100% of CP with concomitant DM.

According to the ultrasound criteria, in 73.68% with CP revealed changes in the structure of the pancreas, which corresponded to mild severity (2 points for M-ANNHEIM), in 21.06% of patients – mo-

derate severity (3 points). Significant changes in the structure of the pancreas by ultrasound criteria were noted in 5.26% of patients, which corresponded to severe severity (4 points). 57.89% of patients with CP with concomitant DM with changes of the structure of pancreas had mild severity (2 points), 42.11% of patients had moderate severity (3 points). In patients with CP and CP with diabetes complications were found, respectively, in 3 against 4 patients.

It was found 14 (73.68%) patients with CP with moderate (B) severity and 5 (26.32%) – with medium (C) severity by the M-ANNHEIM classification. However, among the patients with CP and DM were found 2 (10.52%) patients with moderate (B) severity, 16 (68.42%) – with medium (C) severity, 2 (10.53%) – with severe (D) severity and 2 (10.53%) – with heavy (E) severity.

Analyzing the coprogram data, ultrasound data, glycosylated hemoglobin levels and points by M-ANNHEIM classification were found following changes that are shown in table. In patients with CP with concomitant DM coprogram changes were significantly more important than in patients without DM (5.47 ± 0.21) against (4.73 ± 0.14) points. A similar trend was observed in relation to changes of the ultrasound criteria in points (5.26 ± 0.28) to (4.05 ± 0.30) points. The level of glycosylated hemoglobin in patients with DM (7.16 ± 0.43) % was significantly higher than in the patients with CP without incretory failure (5.15 ± 0.20) %. The points by M-ANNHEIM classification in the 2nd group were significantly more important than in the first group (13.89±0.90) against (8.63±0.52) points.

In conducting the correlation and regression analysis were found direct correlations between the severity of chronic pancreatitis by M-ANNHEIM and changes of coprogram (r=0.702; p<0.001), ultrasound criteria (r=0.55; p<0.05), the level of glycosylated hemoglobin (r=0.678; p<0.01).

Dynamics of coprogram changes, ultrasound criteria and the level of glycosylated hemoglobin in patients with chronic pancreatitis and chronic pancreatitis with concomitant diabetes mellitus

Indication	*Groups of patients with CP*	
	CP	*CP+DM*
	n=19	*n=23*
Coprogram, points	4.73±0.14	5.47±0.21*
Ultrasound criteria, points	4.05±0.30	5.26±0.28*
Glycosylated hemoglobin, %	5.15±0.20	7.16±0.43*
Points by M-ANNHEIM	8.63±0.52	13.89±0.90*

Note: * – p<0.05

Quantitative criteria for the M-ANNHEIM classification are easy to use, can be easily incorporated into practice of general practitioner that will provide dynamic observation of the patient, timeliness of the application is not only therapeutic but also prophylactic programs in the conditions of clinical examination and routine supervision proved in terms of their use in clinical practice.

Conclusions

1. The close correlation between CP severity by M-ANNHEIM classification and objective criteria of chronic lesions of the pancreas demonstrate its high information content, which is the novelty of our study. The presence of endocrine insufficiency of pancreas in the way of diabetes mellitus complicated a clinical course of chronic pancreatitis according to the M-ANNHEIM scoring system, that correlated with the changes of coprogram (r=0.702; p<0.001), ultrasound criteria (r=0.55; p<0.05), the level of glycosylated hemoglobin (r=0.678; p<0.01).

2. For patients with chronic pancreatitis with concomitant diabetes mellitus, a CP degree was more expressed than in the case of chronic pancreatitis without endocrine insufficiency. Average severity (S) prevailed in 68.42% of patients in the 2nd group vs. 26.32% of the first group, cases of expressed and severe severity appeared.

3. We consider recommending the use of M-ANNHEIM scoring system in gastroenterological practice, therapeutic institutions and practices of family physicians.

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TRATAMENTUL CHIRURGICAL AL LEZIUNILOR ŞI STRICTURILOR CĂILOR BILIARE MAGISTRALE

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Summary

Surgical treatment of lesions and strictures of the main biliary ducts

During 1980-2013 year, were hospitalized 233 pacients biliary lesions and benign biliary strictures in the Clinic 1 2nd Department of Surgery of SMPU "N. Testemiţanu". Clinical evaluation included several consecutive steps: 1) setting the ethiopatogenic diagnosis; 2) pre-operatory decompression of the biliary tree; 3) reconstructive surgical act. In case of biliary strictures, following the cut of jaundice and biliary infection, bilio-digestive derivations have been performed according to the level of the obstacle, preferring the bilio-jejunal on isolated loop in Y a la Roux. The post-operatory lethality was of 6 (2.63%) cases.

The lesions of the biliary ducts have a complicated evolution, with many surgical interventions and hospital confinements. effort is needed in order to trace them timely and to prevent septic complications. In the first stage decompression of the biliary tree is performed and following the cut of the inflammatory process, bilio-digestive reconstruction is done.

Keywords*: surgical treatment, strictures, biliary ducts*

Резюме

Хирургическое лечение повреждений и рубцовых стриктур желчных протоков

За период 1980-2013 г., на кафедре Хирургии № 2, клинической базе № 1, ГМФУ им. «Н. Тестемицану» было госпитализировано 233 больных с ятрогенными повреждениями и рубцовыми стриктурами желчных протоков. Клиническое обследование пациентов включало несколько этапов: 1) этиопатогенетическая диагностика; 2) предоперационная декомпрессия желчевыводящих путей; 3) реконструктивная хирургия. В случаях желчных стриктур, после купирования желтухи и желчных инфекций, проводили реконструктивные операции, напрямую зависимые от уровня обструкции, предпочтительно гепатикоеюнальные анастомозы на изолированной петле Roux. Послеоперационная летальность была отмечена в 6 (2,63%) случаях. Ятрогенные повреждения имеют сложную эволюцию, с большим числом хирургическим операций. Необходимо приложить усилия для своевременного диагностики и профилактики септических осложнений. На первом этапе предложено применить декомпрессию желчевыводящих путей, а после – купирование воспалительного процесса, проводят реконструктивные операции.

Ключевые слова*: хирургическое лечение, стриктуры, желчные протоки*

Introducere

Odată cu prima colecistectomie efectuată în 1882 de către Langenbuch, s-au deschis noi posibilităţi de terapie a leziunilor iatrogene de cale biliară magistrală (LICBM). În 1899 s-a înregistrat prima reparaţie reuşită a unei astfel de leziuni. De atunci, această tematică a fost dezbătută pe larg în articole şi tratate de specialitate, atât în literatura internaţională, cât şi în cea autohtonă.

Principiile tehnicilor chirurgicale pe parcursul mai multor decenii au fost aduse la o cizelare impresionantă. S-a standardizat şi tehnica realizării colecistectomiilor, însă ponderea leziunilor căilor biliare rămâne totuşi constantă pe parcursul ultimelor decenii – 0,1-0,8% cazuri.

Colecistectomia clasică a fost un standard de aur în tratamentul colecistitei calculoase mai mult de 100 de ani. Promovarea pe scară largă a colecistectomiei laparoscopice a reaprins controversele din chirurgia clasică. Odată cu introducerea primei colecisectomii laparoscopice de către Erich Mühe von Böblingen (Germania) în 1985 şi apoi de P. Mouret (Franţa) în 1987 în practica medicală, s-a constatat o ascensiune uimitoare a acestei tehnologii, care devine doar în câţiva ani un nou standard de tratament, acceptat unanim. Astfel, la moment în ţările dezvoltate se apreciază un nivel de 95% de colecistectomii laparoscopice din totalul efectuat [1, 3, 4, 5].

Literatura de specialitate prezintă o abundenţă de date statistice şi de interpretări şi concluzii privitoare la incidenţa, factorii de risc şi mecanismele de producere a LICBM, oferind totodată şi recomandări pentru a preveni o astfel de eventualitate.

Până la era laparoscopică, frecvenţa leziunilor cailor biliare, ca urmare a unei colecistectomii tradiţionale, pe parcursul ultimelor decenii a fost un