

ABSTRACT&REFERENCES

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CLINICAL AND NEUROLOGICAL FEATURES OF THE COURSE AND COGNITIVE IMPAIRMENT IN ORTHOSTATIC HYPOTENSION IN PATIENTS WITH NEURODEGENERATIVE DISEASES

p. 4-13

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Aim: To optimize the diagnostics of cognitive impairments in patients with neurodegenerative diseases and orthostatic hypotension, based on the estimation of the character of interrelations between clinical-pathogenetic features, degree of cognitive functions impairments and several indices of hemodynamics.

Materials and methods. There was realized the general clinical, neurological examination, neuropsychological testing: MMSE, MoCA, FAB, test of memorization of 12 words, drawing of a watch, phonetic speed of speech, semantic speed of speech; orthostatic test. There were examined 105 patients: the first group – patients with AD (33 patients), the second – with PD (35 patients), the third, control group (37 examined persons) – practically healthy people. Groups 1 and 2 were divided in the subgroup A (with orthostatic hypotension) and the subgroup B (with the normal orthostatic reaction).

Results. The clinical picture of patients of the subgroup A demonstrated complaints, typical for OH episodes, reliably more often than the one of the subgroup B and control. Complaints for the memory worsening and difficulties at trying to choose a proper word, falling were observed statistical-

ly reliably more often in patients with PD and OH. Positive axial reflexes, revival of tendon and periosteal reflexes were revealed more often in the subgroup 1A than in 1B at the neurological examination; in the subgroup 2A – nystagmus, positive axial reflexes, postural instability.

According to the results of the neuropsychological test, points of MoCA scale, test of semantic speed of speech, memorization of 12 words; memory and attention domains by subtests of MoCA scale in patients of 1A group were statistically reliably less than in 1B subgroup. Points of patients of 2A subgroup were statistically reliably less than in 2B subgroup by MoCA, FAB scales, by the test of phonetic speed of speech, semantic speed of speech, memorization of 12 words; by subtests of ruling functions, memory and attention of MoCA scale.

Conclusions 1. MoCA scale, test of drawing a watch, test of memorization of 12 words, test for semantic and phonetic speed of speech turned out to be more sensitive at orthostatic hypotension.

2. At orthostatic hypotension impairments in domains of memory, attention, speech, occur more often in patients with Alzheimer's disease, in ones with Parkinson disease – impairments of memory, attention, ruling functions, thinking

Keywords: Alzheimer's disease, Parkinson's disease, orthostatic hypotension, cognitive decrease

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ANALYSIS OF FEATURES OF CLINICAL MANIFESTATIONS OF GASTROESOPHAGEAL REFLUX DISEASE IN CHILDREN OF DIFFERENT AGE PERIODS

p. 13-17

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Aim. To analyze features of the course of gastroesophageal reflux disease for determining the main clinical symptoms in children of different age groups.

Materials and methods. There were examined 126 children of different age with gastroesophageal reflux disease. All children underwent the clinical examination, esophagogastroduodenoscopy (videogastroscope «Fujinon» WG 88 FP) and intragastric endoscopic pH-metry (acidogastrograph AG TC U 33.1-13300318-002:2007, made by "Start" LTD).

Results. Children with the endoscopic positive variant of gastroesophageal disease more often demonstrated complaints for nausea (40 %) ($p < 0,02$), where as children with endoscopic negative variant of gastroesophageal reflux disease reliably more often complained for vomiting (31 %) ($p < 0,05$). Complaints for nausea ($p < 0,05$) and vomiting ($p < 0,04$) were most typical for preschool children (before 6 years) with reflux-esophagitis. 80 % of children with reflux-esophagitis of II stage demonstrated complaints for heartburn in and 40 % – for pains behind the breast. At the same time only 13 % of their coevals with reflux-esophagitis of I stage complained for heartburn and 3 % of them for pains behind the breast. Children with endoscopic negative variant of gastroesophageal reflux disease had practically no complaints for heartburn and pains behind the breast. Children with hypo- and norm-acidity complained for nausea reliably more often (71 %), compared with children with hyperacidity (34 %) ($p < 0,01$). Heartburn occurred reliably more often in the group of children with hyper-acidity (14 % against 6 %).

Conclusions. Complaints for nausea ($p < 0,05$) and vomiting ($p < 0,04$) are most typical for preschool children with reflux esophagitis. Children with reflux, esophagitis of II st. complain for pains behind the breast ($p < 0,04$) and nausea ($p < 0,005$) reliably more often comparing with children with reflux-esophagitis of I st. Children with gastroesophageal reflux disease with the decreased or normal acidity of gastric contents complain for nausea reliably more often (71 %), ($p < 0,01$), and heartburn bothers children with hyperacidity more often

Keywords: gastroesophageal reflux disease, children, peculiarities of clinical manifestations, acidity of gastric contents

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HYGIENIC ASSESSMENT OF QUALITY AND WAY OF LIFE OF YOUTH

p. 18-22

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The paper presents the results of the study of life style and quality of female students of higher educational institutions.

Aim of research: to estimate life quality indices and their connection with socio-hygienic factors of life activity of girls 17–22 years old for substantiating arrangements of the active prophylaxis of health disorders of the female contingent of the early active reproductive age.

Materials and methods. 284 female students of higher educational institutions of city Sumy (I group (n=135)– 17–19 years old, II group (n=149) – 20–22 years) took part in the research. Their life quality was estimated using the non-specific questionnaire «SF-36», socio-hygienic factors were studied using the specially elaborated form.

Results of research. There were determined quantitative characteristics of the physical (67,03±1,30 points) and psychological (59,69±1,26 points) components of health. Values of physical and psychological components of health of girls 20–22 years old are reliably lower comparing with the younger age group (17–19 years). Age differences of the parameter “Physical component of health” appear at the expense of decreasing a mark of the routine role physical functioning and a mark of the general health status of girls 20–22 years old comparing with girls of 17–19 years. The psychological health component reliably differed in the chosen age diapasons mainly at the expense of the role emotional functioning decrease in girls of II group. It was established, that the parameter “General health status” is a system-creating factor of the life quality for the contingent of female students in general by the number of correlations. The role physical functioning, which high mark is connected with the absence of limitations for physical loads, high level of the general health status and emotional condition that helps in everyday activity, is an important factor in the group of girls of 17–19 years. Age features of the life quality of female students 20–22 years old are in the fact that the social functioning has a reverse correlative connection with the physical functioning, role physical functioning and general health status and prove the fact of the priority of the high level of the motivation, volitional effort, purposefulness for providing the high level of the social functioning.

Conclusions. The life quality of female students depends on a series of socio-hygienic factors, such as: education of the mother, physical activity level, smoking, alcohol intake, pathologies of the respiratory system, digestion, nervous and reproductive systems. Quantitative characteristics of the dependence of the life quality on the complex of factors allow to substantiate arrangements of the prophylaxis of health disorders of the female contingent of the early reproductive age scientifically

Keywords: life quality, physical, psychological content of health, female students, socio-hygienic factors

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DETERMINATION OF SIGNAL CALCINEURIN PATHWAY BIOMARKERS SIGNIFICANCE IN EARLY MYOCARDIAL CHANGES IN CHILDREN WITH BICUSPID AORTIC VALVE

p. 22-27

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Aim of research: determination of the diagnostic value of serum concentration of biomarkers of calcineurin signal pathway (calcineurin, protein S100, interleukin-2) in children with the bicuspid aortic valve at absence of heart failure signs and influence of revealed changes on the early remodeling and hypertrophy of myocardium.

Materials and methods: 38 children with the bicuspid aortic valve (SAV), diagnosed by doppleroechocardiography, and 28 children of the control group underwent the measuring of concentrations of calcineurin, protein S100, interleukin-2 and general calcium by the immune-enzyme method with the further estimation of the influence of these changes on morphofunctional hearth parameters by the method of correlation analysis.

Results: children with SAV demonstrated the reliable thickening of the back wall of the left ventricle and interventricular septum at the correspondent increase of the blood velocity and pressure gradient on the aortic valve. Serum concentrations of calcineurin and calcium in children with SAV were reliably decreased, and protein S100 correspondingly increased comparing with the control group. At that the SAV group, as opposite to the control one, demonstrated reliable negative correlations between the calcineurin level and right ventricle sizes, protein S100 and left and right atria sizes interleukin-2 and left ventricle systolic size at the reliable positive correlation between levels of calcineurin and general calcium.

Conclusions: Children with SAV demonstrated the moderately expressed left ventricle myocardium hypertrophy, decrease of calcineurin serum concentrations that have a negative influence on the geometry of right heart parts and serum calcium level at the correspondent increase of protein S100. The revealed changes allowed to establish the predicative role of calcineurin in the development of early morphofunctional changes of myocardium in children with SAV

Keywords: bicuspid aortic valve, children, myocardium hypertrophy, calcineurin, protein S100, interleukin-2, calcium

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INTRAOULAR PRESSURE INVESTIGATION DURING LUMBAR SPINE SURGERY IN PRONE POSITION

p. 28-30

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Aim: to estimate intraocular pressure changes at lumbar spine surgery in prone position at the general intravenous anesthesia and at the spinal anesthesia and to compare these data with healthy volunteers.

Materials and methods. The research included 10 healthy volunteers and 40 patients ASA I-II, who underwent planned surgical interventions on the lumbar spine in prone position. Patients of I group (n=20, men 7, women 13, mean age 47±14 years) underwent surgical interventions under conditions of the spinal anesthesia. Patients of II group (n=20, men 8, women 12, mean age 44±12 years) underwent surgical interventions under conditions of the general intravenous anesthesia. Patients' prone position was horizontal in both groups. The head turned at the angle 45° (the left eye lower than the right one). The intraocular pressure was estimated by Maklakov's method by one researcher in the position on the spine before surgery and immediately after it. Healthy volunteers (n=10, men 4, women 6, mean age 49±12 years) were examined in the position on the spine, after that they lied in the analogous prone position during 90 minutes and were examined immediately after turning on the spine.

Research results: patients of both groups and healthy volunteers demonstrated the increase of the intraocular pressure after lying in prone position ($p<0,001$), moreover it was higher in the left eye (the lower one). In patients of 2 group (general anesthesia) IOP increase in the low eye was reliably ($p=0,03$) more than in patients of I group and healthy volunteers. Patients of I group didn't demonstrated reliable changes compared with the group of healthy volunteers.

Conclusions: at turning in prone position healthy volunteers and patients under anesthesia (spinal, general) demonstrate the intraocular pressure increase. IOP increases in patients under the general anesthesia were reliably higher in the lower eye, than in patients of the group of the spinal anesthesia and healthy volunteers

Keywords: prone position, intraocular pressure, general anesthesia, spinal anesthesia

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FEATURES OF PLATELET HEMOSTASIS CHANGES AND ANTIPLATELET TREATMENT SENSITIVITY IN PATIENTS WITH STABLE FORMS OF ISCHEMIC HEART DISEASE

p. 31-36

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Aim: To study and to estimate the aggregation activity of platelets in patients with stable forms of IHD, taking into account their sensitivity to the antiplatelet treatment and influence of ITGA2 polymorphism.

Materials and methods: there were examined 45 patients, who were on treatment in the Clinic “Feofaniya” (city Kyiv) and in Kyiv clinical hospital of railway transport No. 2: 22 women and 23 men (mean age – 66,8±±9,5 years). The study included patients with stable forms of IHD (stable effort angina of II-III FC). All patients received the antiplatelet treatment with acetylsalicylic acid (48,9 %), clopidogrel (37,8 %) or their combination (13,3 %).

The functional activity of platelets was studied on the laser aggregometer Biola Aggregation Analyser. The reaction to the antiplatelet treatment was confirmed using Aggredyne-test. C807T polymorphism of ITGA2 was determined by the method of polymerase chain reaction (PCR).

Based on the results of aggregation activity, sensitivity to the antiplatelet treatment, patients were distributed in two groups: I group – persons with the different degree of resistance to antiplatelet drugs (21 patients), II group – sensitive to the treatment (24 persons). Polymorphism of ITGA2 and features of platelets functional activity depending on genotype were analyzed in each group.

Results: Among all inductors of aggregation, only the reaction to arachidonic acid (AA) was less than control values (by 12,7 %, $p < 0,05$). The degree of the spontaneous and adenosine diphosphate (ADP)-induced aggregation didn't differ from the norm, collagen-induced one was 1,21 times higher than the control. The quantity of patients, insufficiently sensitive to the treatment was 46,7 % (21 persons), according to the data of Aggredyne-test, 24 persons had an adequate response to the treatment. At the analysis of ITGA2 polymorphism T/T genotype prevailed in patients “non-respondents”, in “respondents” – C/C genotype. T-allele presence among respondents was 90,5 % persons, so the probability of its influence on sensitivity to the antiplatelet treatment was rather high.

Conclusions: The decrease of sensitivity to antiplatelet drugs, connected with ITGA 2 polymorphism was ob-

served in 46,7 % of patients with stable IHD: resistance to the antiplatelet therapy is associated with T/T genotype of ITGA 2, presence of T-allele in the genotype of patients-“non-respondents” was observed in 90,5 % of persons, C/C genotype prevails at a positive response to the treatment

Keywords: ischemic heart disease, angina, platelets aggregation, antiplatelet treatment, resistance to antiplatelet drugs

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STUDY OF FACTORS THAT AFFECT CLINICAL PROGNOSIS AND HEART REMODELING IN PATIENTS WITH MYOCARDIUM INFARCTION WITH ST SEGMENT ELEVATION IN REMOTE PERIOD

p. 36-43

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Aim. To determine factors, connected with the unfavorable prognosis of patients with myocardium infarction (MI) with ST element elevation, who underwent the thrombolytic therapy (TLT).

Materials and methods. There were examined 100 patients with MI with ST segment elevation, who underwent TLT, admitted at hospital during the first 6 hours of the disease. The average time of TLT was $154 \pm 75,56$ minutes, TLT was realized at the pre-hospital stage in 35 (38,5 %) patients. Blood samples for determining biochemical parameters, especially asymmetric dimethylarginine (ADMA) and high-sensitive C-reactive protein (CRP), were taken at admission at hospital. ADMA level was determined using the high-effective liquid chromatography, the level of high-sensitive CRP – by the immunoturbidimetric analysis. For determining the allele condition of T786C polymorphism of the gene of endothelial NO synthase (eNOS), there was used polymerase chain reaction. All patients underwent echocardiography (EchoCS).

Patients were examined repeatedly in 1 year. The information as to undesirable clinical events was accessible in 91 persons, 60 patients underwent the repeated EchoCS.

Results. Undesirable clinical events took part in 13 (14,3 %) of 91 patients. Among patients, who underwent undesirable events, reliably more patients had the previous localization of MI (39,7 % and 76,9 %, respectively, $p=0,03$). They had also the more heart rate for the second day of the disease ($71,01 \pm 12,38$ st/min and $77,36 \pm 7,84$ st/min, respectively, $p=0,045$). The reliably more part of patients from this group had angina before the development of the current MI – 1 (1,3 %) and 3 (23,1 %), respectively, $p=0,009$. Patients, who had undergone undesirable events, had the reliably higher level of the high-sensitive CRP at admission to hospital ($37,47 \pm 28,08$ against $11,70 \pm 12,21$ in I group, $p=0,006$). The regression analysis established that the increase of the risk of undesirable events by 9,9 % is connected with angina before MI, by 7,3 % with the previous MI localization, by 5,6 % with the decrease of the emission fraction (EF) in the acute period of MI, by 5,1 % with the increase of the level of the high-sensitive CRP, by 5,1 % with the decrease of smoking length, and by 5,1 % with female sex.

The left ventricle (LV) remodeling (increment of the end diastolic volume (EDV) over 20 % comparing with the results of the first EchoCS) was observed in 13 (21,7 %) of 60 examined persons. It was revealed, that patients with the further development of LV remodeling had better parameters of the intracardiac hemodynamics in the acute period of MI – less values of LV EDV ($p=0,028$), LV end systolic volume (ESV) ($p=0,049$), LV myocardium mass ($p=0,031$). At the analysis of laboratory data, it was revealed, that these patients had the reliably higher level of the high-sensitive CRP and ADMA. The method of regression analysis demonstrated that the increase of the risk of LV remodeling is connected with the less size of the left atrium by 12,5 % and by 9,1 % – with the less MMLV in the acute MI period, by 5,9 % with smoking at the moment of MI, by 5,1 % with the increase of the level of high-sensitive CRP, by 4,7 % with angina before MI, by 4,6 % with the previous MI localization.

Conclusions. The risk of clinical undesirable events and LV remodeling in patients with MI with ST segment elevation depends on their anamnesis, infarction localization and clinical course of the disease and also on several biochemical indices

Keywords: Myocardium infarction, thrombolytic therapy, prognosis, end points, remodeling of the left ventricle

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- DOI: 10.15587/2519-4798.2017.116804**
- STUDYING RESULTS OF LIFE QUALITY CHANGES AMONG CHILDREN OF THE FIRST THREE YEARS OF LIFE WITH VISUAL ANALYZER CONGENITAL PATHOLOGY**
- p. 44-47**
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Aim: *the study of changes of life quality components in children of the first three years of life with the congenital pathology of the visual analyzer as an instrument of formation of their social adaptation in future.*

Materials and methods: *forms of the sociological study by the adapted version of the standardized Children's Visual Function Questionnaire (CVFQ) Feliuss et al. (2004) – 498 forms, among them 398 – from the main group and 100 – from the control one were the initial material. The scientific base of the study was ambulatory-polyclinic departments of health protection institutions of the city Kyiv that give medical care to children of the first three years of life, especially with the congenital pathology of the visual analyzer. To achieve the aim, it was necessary to use the complex of research methods, based on the system approach, namely: medical-statistical and sociological methods (form questionnaire with the interim report about the aim and tasks of the study for respondents, previous oral voluntary consent for the participation in the anonymous questionnaire).*

Results: *It was elucidated, that most respondents from the main group, as opposite to patients from the control one, had disorders of life quality components by the scale "general vision" and "influence on a family". Parents of children from the control group estimated the general vision of their children totally in $89,75 \pm 1,33$ points against $60,25 \pm 1,96$ by the total estimation of parents of children from the main group (difference was 32,87 %, at $p < 0,001$). In general, the total number of points in the main group was $64,89 \pm 1,01$ in the main group against $84,67 \pm 0,92$, by total estimations of the life quality of children of the early age by parents with the difference in 23,4 % ($p < 0,001$).*

The results of the realized study prove changes of the children's life quality at vision disorders in the early age that substantiates the expedience of intensifying arrangements on timely revelation and treatment of vision function disorders in children, according to existent medical-technological documents.

Conclusions: *the studies proved that children with the congenital pathology of the vision analyzer suffer from the loss of life quality components from the early age that motivates*

the interaction between a family doctor, child ophthalmologist within their competences in giving medical help at vision analyzer function disorders from the first days of child's life, for realizing the effective supervision of a family, preventing the development of the medical-social maladjustment of both a child itself and its family

Keywords: *children life quality, ophthalmologic pathology, timely diagnostics, family doctor's supervision*

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THYROID FUNCTION IN FULL-TERM SMALL-FOR-GESTATIONAL-AGE (SGA) CHILDREN DURING rGH-THERAPY

p. 48-51

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There was not established any influence of the treatment with the recombinant growth hormone (rGH) on the thyroid function in full-term small-for-gestational age SGA children.

The aim of the research was the study of the level of serum thyroxin of free (T4) and thyrotropic hormone (TTH) in SGA children before and after rGH treatment; determination of possible influence of a body mass and length at birth, thyroid hormones on the further spontaneous growth.

Methods. The research included 58 full-term SGA children (25 with spontaneous growth, 33 undersized), pre-pubertal. The measuring of levels of free T4 and TTG was realized before and in 6 and 12 months after rGH treatment.

Results. Indices of free T4 and TTG don't correlate with a standard deviation score (SDS) of a body mass and length at birth, body mass index and IGF-1. The average level of free T4 was decreasing during the first 6 months of rGH treatment, but remained within norm. TTG didn't change during the treatment. The change of free T4 doesn't correlate with the change of SDS of the growth speed during 12 months after rGH treatment.

Conclusion. TG level doesn't correlate with SDS of a body mass and body length at birth. The level of free T4 decreases at rGH treatment, but it is not connected with TTG increase and doesn't influence rGH treatment effectiveness. As far as such inessential changes in the thyroid function are not clinically important, frequent observation on the thyroid function at rGH treatment is not substantiated in full-term SGA children. Monitoring in such children must be realized once a year with determining TTG and free T4 levels in blood plasma

Keywords: small-for-gestational age, thyroid, thyrotropic hormone, thyroxin, growth hormone

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THE INFLUENCE OF COMMUNITY-ACQUIRED PNEUMONIA ON THE CLINICAL COURSE OF CORONARY HEART DISEASE: THE RESULTS OF RETROSPECTIVE ANALYSIS

p. 52-56

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The aim of the work: To investigate the effect of the community-acquired pneumonia (CAP) on the clinical course of coronary heart disease (CHD) and the frequency of major cardiovascular events incidence based on the retrospective analysis results.

Methods: The retrospective analysis of 203 case histories of patients with CHD (median age 73 years (63.00, 80.50), score on the PSI/PORT – 80 (69; 93)), hospitalized in the therapeutic department because of CAP was performed. The study of the main cardiovascular events was conducted with each patient or his relatives through telephone conversations. The data on readmission and reference of the patient to medical institutions in the consequence of arrhythmic complications, progression of heart failure, destabilization of coronary artery disease within 1 year after the transmitted pneumonia were considered. By cumulative endpoint attributed all fatal and nonfatal cardiovascular events that occurred during the year after CAP.

Results: In total, in patients with CHD during 1 year after the transferred CAP was recorded 104 cardiovascular events, 37 (18.23 %) patients needed the re-hospitalization. The most common causes of health aggravation in patients with CHD after CAP were the rhythm and conduction abnormalities, the occurrence or decompensation of pre-existing heart failure and deterioration of angina pectoris. Among the hospitalized patients, 20 (62.5 %) had a combination of 2 or more of the noted complications. The development of acute myocardial infarction was observed in 3 (1.48 %) patients at 7 and 9 days from the moment of admission for hospitalization. The arrhythmias, acute myocardial infarction and decompensation of heart failure were observed with the same frequency in patients of all groups, regardless of the severity of pneumonia and the risk of mortality on the PSI/PORT scale. There were not found the impact on the development of adverse cardiovascular events in patients with CHD after CAP such factors as male gender, presence of anamnesis of transmitted myocardial infarction, arterial hypertension, angina pectoris III-IV FK, previous arrhythmic disorders, and also such traditional factors as smoking and diabetes mellitus.

Conclusions: The community-acquired pneumonia exerts an adverse effect on the clinical course of coronary heart disease by increasing the functional class of angina, heart failure progress and the development of arrhythmic; the most common cause of the lethal outcome in patients with coronary heart disease after community-acquired pneumonia is acute heart failure (alveolar pulmonary edema). There was not found the relationship between traditional risk factors, severity of CAP and the development of adverse cardiovascular events

Keywords: coronary heart disease, community-acquired pneumonia, cardio-vascular event, mortality, risk factors

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