

Clinical Features of Unstable Angina Associated with Left Bundle Branch Block in the First Day of the Disease

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Abstract: We have studied pain syndrome in patients with UA with LBBB. 56 patients with UA with LBBB as well as 310 patients with UA alone, without LBBB, were studied. Pain syndrome was revealed in 12 (21.4%) patients with UA with LBBB for the first time. 12% of the patients with UA with LBBB didn't have the pain syndrome at all. Duration of the pain in patients with LBBB was 12 hours in the test group and 5 hours in the control group, $p = 0.00$. Patients with LBBB were 10 times more likely to require re-administration of narcotic analgesics for pain relief-6 cases (11%), without LBBB-4 cases (1.2%), $p = 0.000$. Clinical features of UA with LBBB was the age older than 75 years, the longer period of seeking medical help-12 hours or more frequent re-use of narcotic analgesics for pain relief.

Abbreviations:

ACS - acute coronary syndrome
MI - myocardial infarction
UA - unstable angina
LBBB - left bundle branch block

Key words: Unstable Angina • Left Bundle Branch Block

INTRODUCTION

In 16% of patients with ACS medical condition remains unstable during the first day from cardiovascular event. This unstable condition is known as unstable angina (UA) [1]. Patients with UA represent a heterogeneous population not only by their complaints, medical history, age, gender, but also by life prognosis and cardiovascular complications [2]. Most patients with UA have a more favorable prognosis than patients with MI. Nevertheless there are lethal cases in patients with UA-from 1.8% to 11% as well as adverse cardiovascular events-up to 5.1% of cases [3-5]. Despite the presence of lethal cases in patients with UA, the correct diagnosis and appropriate treatment are established much later. Doctors also perform cardiac catheterization and revascularization procedures rarely, while the conventional conservative therapy is performed more often [3].

LBBB is the factor that complicates the course of ACS and UA: it increases the incidence of adverse cardiovascular events by 6 times, while the mortality rate increases up to 94% [6-9]. However, knowledge of the clinical features of UA associated with LBBB in the first day of the disease is not enough to treat such patients effectively. The obtained knowledge will help doctor to focus his attention on early assessment of clinical features of UA and LBBB and to choose an effective strategy of medical care.

The aim of this study is to investigate clinical features of UA with LBBB in the first day of the disease.

MATERIALS AND METHODS

The study was performed at the Department of Emergency Care at the Medical Faculty of Medical Specialists Training and Retraining at the State Budget

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Healthcare Institution of Higher Professional Education “Vagner Perm State Medical Academy” of the Ministry of Health of Russian Federation. Object of the study-patients with UA and LBBB. Types of studies-retrospective and dynamic. Observation period- the first day of the disease. The study was conducted in the Cardiology Department of the City Clinical Hospital No. 9 of the Perm city named after M.A. Tver’e in 2011-2012 (Chief Physician-Petukhov V.N.). The criteria for inclusion of patients in the test group were the following: UA associated with LBBB of any duration. Exclusion criteria were the following: WPW syndrome, hyperkalemia, atrioventricular and nodal heart rhythm, artificial pacemaker (temporary or permanent), valvular heart disease, myocardial revascularization surgery (performed in the current hospital period). Criterion for inclusion in the control group were the following: patients with UA without LBBB. Exclusion criteria were the same as those in the test group. UA was diagnosed according to ACCF/AHA recommendations [10]. UA diagnosis was established in 12 hours after the onset of the disease, with no signs of myocardial infarction. LBBB criteria included recommendations of the American Heart Association Electrocardiography and Arrhythmias Committee [11]. We assessed complaints and pain syndrome, cases of clinical death and the frequency of narcotic analgesics use.

RESULTS AND DISCUSSION

The study covered 366 patients with UA. 56 people (14.5% of the total number of patients with UA) met inclusion and exclusion criteria of the test group. Among them there were 48% men. The control group consisted of 310 patients with UA without LBBB. The proportion of men was 51%, $p = 0.784$. 50 (89%) of patients of the test group were taken to emergency services, six people (11%) came in the hospital by themselves. Patients in the test group were 7 years older than those in the control group-75 (67-81) years and 68 (59-75) years, respectively, with $p = 0.000$.

We have analyzed complaints of patients from the test and control groups. These complaints were revealed on the primary physical examination (Table 1).

The time median from the appearance of complaints to appeal for medical care in the test group was 12 (16-18) hours. It was for 7 hours later than in the control group-5 (2-12) hours, $p = 0.00$. Probably this fact can be explained by the older age and long process of making the

Table 1: A comparative analysis of complaints of patients from the test and control groups

Parameters	Test group (N = 56)	Control group (N = 310)	P
Chest pain	49 (88%)	282 (91%)	0,647
Chest pain appeared for the first time	12 (21.4%)	92 (29.7%)	0,269
Weakness	19 (34%)	143 (46%)	0,129
Dyspnea	18 (32%)	110 (35%)	0,778
Discomfort behind the breastbone	8 (14%)	75 (24%)	0,140
Dizziness and fainting	6 (11%)	29 (9%)	0,823
Heartbeat	2 (4%)	25 (8%)	0,438

correct decision as well as inadequate assessment of the developed medical condition. There is a difference in necessity in applying of narcotic analgesics for the pain syndrome: 6 cases (11%) in the test group and 4 cases (1.2%, $p = 0.000$ in) in the control group.

We have followed-up 131 patients with ACS and LBBB being in the Register 1 and 2 (2007-2011). Lopatina A.S. and colleagues showed that the clinical condition is not assessed correctly in these patients. In case of more frequent development of cardiogenic shock and lethal cases in the hospital, these patients undergo reperfusion therapy less often [11]. Therefore, we recommend to deal more carefully with such patients aged 75 years and older. We also recommend to reveal LBBB in time.

CONCLUSION

The clinical features of unstable angina associated with the left bundle branch block are the following: age of more than 75 years, period from the onset of complaints to appeal for medical care of about 12 hours and more frequent re-use of narcotic analgesics for the pain syndrome.

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