Q Wave Disappeared Temporally While Left Ventricle Was Diffuse Hypokinetic, And Appeared Again With Wall-Motion Recovery

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Abstract
A 42-year-old man was admitted to our hospital because of acute heart failure. He had suffered inferior myocardial infarction 6 years ago. At that time, electrocardiogram (ECG) showed prominent Q waves in inferior leads (Fig. 1A), and inferior wall of left ventricle was hypokinetic. He had interrupted regular medication 4 years ago. On admission, left ventricle was diffusely hypokinetic with 20% of ejection fraction, and there were no prominent inferior Q waves in ECG. (Fig. 2)
Through resuming previous medications, he was discharged uneventfully. One year later, echocardiogram revealed restored LVEF, and it is interestingly to note that ECG showed prominent inferior Q waves as previously exhibited. (Fig. 1B)
Q waves following myocardial infarction are the sign of loss of electromotive forces due to myocardial necrosis. The appearance of Q waves is believed to depend on the size and extent of infarction. The temporally disappearance of Q waves in this case suggested that the development of Q wave depends not only on regional loss of electromotive potentials in the infarct area but also on preserved electromotive potentials from the opposite ventricular wall.
Blood Pressure Measurements Comparison By Auscultation And Oscillometric Methods In Patients With Atrial Fibrillation And Arterial Hypertension

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Abstract

Aim: To evaluate the difference between two methods during sinus rhythm and atrial fibrillation (AF).

Methods: Blood pressure (BP) was measured and compared in 71 randomly selected patients with AF and AH diagnosis 4 times each by auscultation and oscillometric (Microlife AFib A6 PC) methods.

Results: Study included 36 males (mean age 67.36yrs), 35 females (70.17yrs). In sinus rhythm (SR) were 36, 35 patients in AF. Adjusted office BP (<140/90mmHg) was in 66.2% patients measuring by auscultation method (AM) and in 54.9% with oscillometric method (OM). The significant difference in BP (> 7 mmHg) measured in SR group was in 28 patients, in AF group - 22 patients. In SR patients mean systolic blood pressure (SBP) was 132±17.9mmHg (AM), 137.4±19.4mmHg (OM); diastolic BP 77.1±10.9mmHg (AM), 78.5±12.2mmHg (OM), p=0.037.

Conclusions: Oscillometric method gave higher BP values in both patient groups. Higher difference between four systolic blood pressure measurements was found in sinus rhythm patient group.
Heart Remodeling In Postmenopausal Hypertensive Women With Metabolic Syndrome And Moxonidine Therapy

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Abstract

Study objective: to evaluate influence of moxonidine therapy on carotid wall thickness, heart structural and functional parametres in hypertensive postmenopausal women with metabolic syndrome (MS).

Material and methods: 56 hypertensive (AH grades 1-2) postmenopausal women with metabolic syndrome 45-55 years old (52,5 +/- 0,4 years). MS was diagnosed according to ESC-ESH (2007) criteria. Patients were treated with moxonidine (200-600 mcg/day) orally. Structure and function of the heart and the intima-media thickness of carotid arteries were reviewed by ultrasound method before therapy and on 12-th week of treatment with moxonidine. Statistical analyses were performed using SPSS 20.0 for Windows.

Results: 55,8% hypertensive postmenopausal women with MS had elevated left ventricle mass index (LVMI more than 110 g/m2), 34,6% patients had LV diastolic dysfunction. We revealed correlation between LVMI, interventricular septum thickness, E/A ratio and systolic BP (r=0,4; 0,4 and -0,4, accordingly; p=0,02; 0,04 and 0,02 accordingly). Positive correlation was revealed between interventricular septum thickness and diastolic BP (r=0,4; p=0,07); left atrium diameter and diastolic BP (r=0,4; p=0,04).

Moxonidine therapy did not changed intima-media thickness of carotid arteries (0,86 +/- 0,03 mm vs 0,81 +/- 0,04 mm; p=0,05) and LVMI (114,0 +/- 3,4 g/m2 and 113,9 +/- 3,4 g/m2, p=0,05 ). LV diastolic function improved: E/A ratio increased from 1,05 +/- 0,03 to 1,20 +/- 0,03 (p<0,001), and IVRT decreased from 97,3 +/- 3,0 msec to 91,8 +/- 3,1 msec (p<0,001). Number of patients with E/A ratio less than 1.0 decreased from 34,6% to 7,7% women (p<0,05). Left atrium diameter reduced (4,30 +/- 0,08 cm and 4,21 +/- 0,07 cm; p<0,05), left atrium volume also decreased (29,8 +/- 0,6 ml/m2 and 29,1 +/- 0,6 ml/m2; p<0,05), (picture).

Conclusions: moxonidine therapy improved left ventricle diastolic function and decreased left atrium diameter and left atrium volume in hypertensive postmenopausal women with metabolic syndrome.
Abstract

Aim: Robotic control of the ablation catheter allows to reduce radiation exposure and to increase comfort for the operator. Our aim is to evaluate immediate and long term efficacy of atrial fibrillation ablation with the AMIGO™ robotic arm comparing to manual navigation.

Methods and results: We evaluated 14 consecutive patients submitted to atrial fibrillation ablation with robotic arm (group A) and compared to 17 consecutive patients submitted to ablation with manual navigation during the same time interval (control group B). The same catheter and mapping system were used in both groups- Smarttouch® and CARTO®. Baseline characteristics (sex, age, paroxysmal vs persistent atrial fibrillation, presence of structural heart disease and left atrium volume) did not differ significantly (p=ns) between groups. The four pulmonary veins were isolated in all patients of both groups. Cavo-tricuspid isthmus ablation was performed in 4 patients in group A and 6 patients in group B. Additional left atrium lines were performed in one patient of group A. The procedure lasted longer in the robotic group (202 ± 62 vs 138 ± 39 min; p=0.002) but not requiring more fluoroscopy time (23 ± 12 vs 17 ± 8 min; p=ns) or more radiofrequency delivery (48 ± 9 vs 51 ± 46 min; p=ns).

During an average follow up of 662±150 days, recurrence free from any documented supraventricular arrhythmia was 85.7% in group A vs 82.4% in group B (p=NS). There were no complications reported in both groups (including major complications and death of any cause).

Conclusions: In this group of consecutive patients submitted to atrial fibrillation, AMIGO™ robotic arm and manual conventional navigation achieved similar efficacy and safety in the immediate and long term. Although the procedure lasted longer, the patient was not exposed to higher fluoroscopy time or to a higher extent of radiofrequency delivery.
Preserved And Reduced Ejection Fraction Epidemiological Regional Study In Stockholm (Prefers)


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Abstract

Purpose: Heart failure (HF) with preserved (HFpEF) and reduced ejection fraction (HFrEF) are conditions associated with poor prognosis and poor quality of life. While HFrEF shows a decreasing incidence and has effective HF treatment, HFpEF is increasing with no established therapy. PREFERS Stockholm is an epidemiological study performed within the 4D HF project which aligns improved clinical care with better prerequisites for good clinical research. We aim to include patients with incident HF (1000/year) in Stockholm (population of 2 million inhabitants). The goal is to find targets for new drug developments in HFpEF (https://internwebben.ki.se/en/project-4d-bridging-gap-between-healthcare-and-research).

Methods: Patients will be characterized at baseline and at a one year follow-up visit by clinical characteristics entered into standardized electronic medical records including echocardiography and ECG standardized protocols transferred online to a database. Patients will be characterized into a) Heart failure with reduced ejection fraction, HFrEF, b) preserved ejection fraction, HFpEF and in a subset of patients undergoing elective coronary bypass surgery (n=200) normal versus abnormal diastolic function. Blood samples will be stored in a biobank and myocardial biopsies from the right atrial appendage and the right and left ventricles as well as central and peripheral blood will be collected during surgery. A subset of patients will undergo magnetic resonance imaging.

Results: The purpose is to characterize and compare new onset HFpEF and HFrEF patients by using high quality clinical and imaging data, by new blood and cardiac biopsy markers through Science for Life Laboratory platforms of genomics, transcriptomics and proteomics as well as established biomarkers of fibrosis, inflammation, hemodynamics, hemostasis and thrombosis. All these data will be explored by state-of-the-art bioinformatics methods to investigate gene expression patterns, sequence variation, DNA methylation, posttranslational modifications and systems biology approaches including pathway and network analysis.

Conclusions: In this large scale epidemiologic study of both HFpEF and HFrEF, with an initiating phase of biopsy studies, we hope to identify new biomarkers of disease progression and to find pathophysiologic mechanisms to support explorations of new treatment regimens for HFpEF.

References

