ANALYSIS OF 12-LEADS ELECTROCARDIOGRAM OF 8970 CASES FROM COMMUNITY NATURAL POPULATION

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Background: Evolving electrocardiogram (ECG) examination in the Community Health Services Centre is the first foundational method of disease prevention, early diagnosis, and early therapy. The authors carried out the epidemiological study of the incidence of 12-leads ECG detecting abnormalities and the risk stratification of 8970 cases from community natural population.

Methods: A total of 8970 ECG dates from eight community groups of Taiyuan city from July 2008 through October 2010 were collected. Population consists of 2877 males (age from 17 years to 90 years, average 56.65±13.22 years) and 6093 females (age from 17 years to 91 years, average 55.01±12.10 years). ECG dates were analysed, and the incidence of all kinds of abnormal ECG were calculated.

Results: (1) The incidence of all kinds of abnormal ECG was 34.57% (including tachyarrhythmia 3.18%, bradycardia 12.39%, ST deviation with T wave change 16.71%). (2) There were 285 patients with tachyarrhythmia, consisting sinus tachycardia 52 patients (18.25%), atrial premature complex 99 patients (34.74%), atrial fibrillation 48 patients (16.84%). There were 1111 patients with bradycardia, consisting sinus bradycardia 777 patients (69.94%), complete right bundle-branch block 147 patients (13.23%), complete left bundle-branch block 23 patients (2.07%), incomplete right bundle-branch block 31 patients (2.79%), left anterior fascicular block 86 patients (7.74%), AV block 107 patients (9.63%). (3) The incidence of abnormal ECG was higher in males than females (39.03% vs 32.46%, p<0.001). (4) There were 2560 patients with hypertension (ECG abnormality 45.20%), 953 diabetic patients (ECG abnormality 38.82%), 1497 patients with hyperlipidemia (ECG abnormality 38.12%), 442 patients with coronary heart disease (CHD) (ECG abnormality 57.69%), heart failure (HF) 20 patients with heart failure (HF) (ECG abnormality 50.00%), and 424 patients with stroke (ECG abnormality 48.82%).

Conclusion: The incidence of abnormal ECG in natural community was 34.57%. The incidence of ST deviation with T wave change is highest among the abnormal ECG. The incidence of abnormal ECG was higher in males than females. The incidence of abnormal ECG in the patients with CHD was the highest.