

FREQUENT VENTRICULAR ECTOPICS IN A HEALTHY ADULT WOMAN – IS IT ASSOCIATED WITH SUDDEN CARDIAC DEATH?

CL Teng, MMed (FamMed), FRACGP, FAFPM, FAMM. International Medical University, Seremban, Malaysia

SR Kunjapan, FRCP. Senior Consultant, Department of Medicine, Hospital Tuanku Jaafar, Seremban, Malaysia

Address for correspondence: Professor Dr CL Teng, Department of Family Medicine, International Medical University, Seremban, Negeri Sembilan, Malaysia. Tel: 06-7677798, Fax: 06-7677709, Email: tengcl@gmail.com

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CASE SCENARIO

History. Puan N, a 45 year-old housewife, presented to her family doctor with the complaint of palpitation for two days. She described it as occasional rapid beating in her chest which occurred for a few seconds, about 10 times a day. She was otherwise well; there was no fever, breathlessness or chest pain.

Physical examination. Blood pressure 110/70 mmHg. Pulse 64/min with irregular beats. Heart: dual rhythm (with irregularity noted), no murmur. Lungs: clear. No other physical findings.

Investigation. Her ECG shows ventricular trigeminy (see below)



Diagnosis. Frequent ventricular ectopic – ventricular trigeminy

Progress. She was referred to a cardiologist. During stress ECG, it was noted that the ventricular ectopic stopped in Stage I. The stress ECG was stopped in Stage III due to fatigue. Her echocardiogram was normal. Her 24-hour Holter monitoring documented 17622 ventricular ectopic activities, with over 699 ventricular bigeminy/trigeminy, but no couplets or salvo or ventricular tachycardia.

DISCUSSION: What is the long-term prognosis of ventricular bigeminy in otherwise healthy adults?

The prevalence of ventricular arrhythmia in the general population vary widely depending on the method of detection, age groups and underlying heart disease: from as low as 0.8% in healthy military population recorded on 12-lead ECG (0.5% in those <20 years, 2.2.% in those >50 years), to 62% in middle-aged adults (a mix of those with or without known heart disease) using 6-hour monitoring.[1] A survey of patients

attending Dutch general practice clinics for palpitation, 28.2% had documented arrhythmia by ECG, about one-third of these were ventricular ectopic (10.6%).[2]

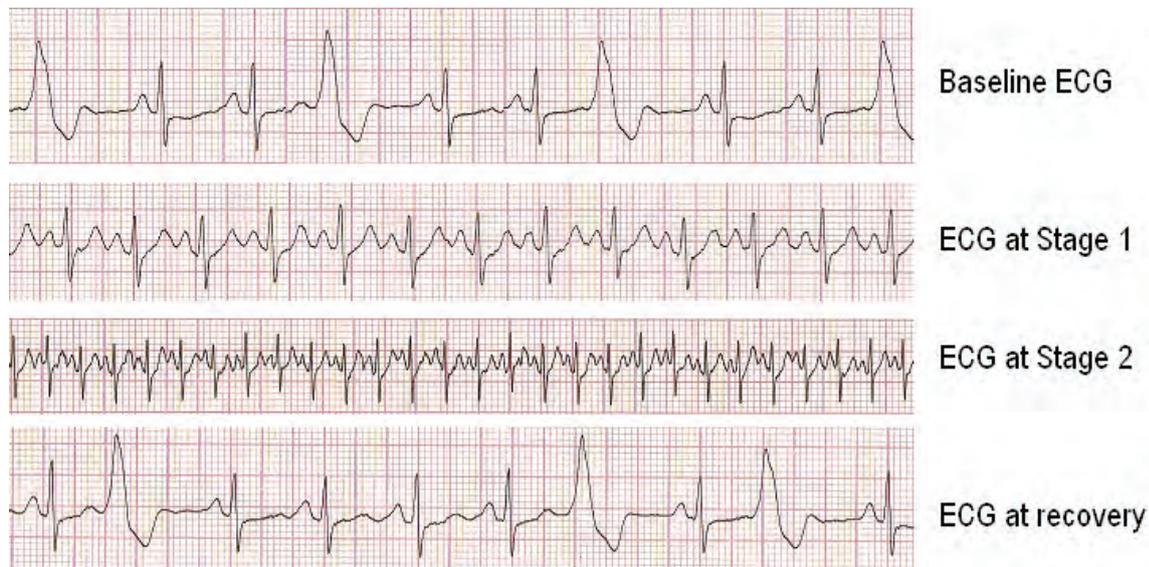
Several cohort studies identified several risk factors of sudden cardiac death among patients with ventricular arrhythmias: polymorphic arrhythmia, sustained arrhythmia, structural heart disease (e.g. post-myocardial infarction), arrhythmias that appear during exercise or recovery phase, and older age.[1] In the Framingham Heart Study[3], adult men without coronary artery disease but noted to have complex or frequent ventricular ectopics (≥ 30 ventricular ectopics per hour) had an increased risk of mortality or acute myocardial infarction after 4-6 years of follow-up. In contrast, females with or without coronary artery disease did not show an increased in any of the above outcomes. In our patient her ventricular trigeminy was abolished by exercise. Ventricular ectopy during recovery phase of exercise (and to a lesser extent those occurring during exercise) has increased mortality after 5 years of follow-up.[4] She should be reassured that long-term follow-up studies have consistently shown that there is no increased mortality in patients like her who do not have underlying heart disease. In fact, anti-arrhythmic drug therapy has been shown to increase mortality rather than decrease it in the Cardiac Arrhythmia Suppression Trials (CAST).[5]

REFERENCES

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Figure 1: Patient's baseline ECG and stress ECG (only lead II is shown)



Garlic reduces blood pressure in hypertensives

Ried K, Frank OR, Stocks NP, et al. Effect of garlic on blood pressure: a systematic review and meta-analysis. *BMC Cardiovasc Disord.* 2008; 8:13.

This is systematic review of 25 studies, 11 of them were included in the meta-analysis. Among the hypertensives, garlic decreases 8.4 +/- 2.8 mm Hg for SBP and 7.3 +/- 1.5 mm Hg for DBP.

Statin therapy should be considered for all diabetic individuals who are at sufficiently high risk of vascular events

Kearney PM, Blackwell L, Collins R, Keech A, Simes J, Peto R et al. Efficacy of cholesterol-lowering therapy in 18,686 people with diabetes in 14 randomised trials of statins: a meta-analysis. *Lancet.* 2008; 371(9607):117-25.

In this meta-analysis, data from individuals with diabetes (n=18 686) and without diabetes (n=71,370) without diabetes in 14 randomised trials of statin therapy were analysed. During a mean follow-up of 4.3 years, there was a significant reduction in vascular mortality, myocardial infarction or coronary death, coronary revascularisation, and stroke.