Lead-I ECG for detecting atrial fibrillation in patients with an irregular pulse using single time point testing: a systematic review and economic evaluation

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Plain English summary

Lead-I ECG for detecting atrial fibrillation

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Atrial fibrillation (AF) is the most common type of abnormal heart rhythm. People with AF are more likely to have a serious stroke or die than people without the condition. Many people go to their general practitioner (GP) with the signs or symptoms commonly linked to AF, such as feeling dizzy, being short of breath, feeling tired and having heart palpitations. GPs check for AF by taking the patient's pulse by hand. If the GP thinks that the patient might have AF, a 12-lead electrocardiogram (ECG) test is arranged. Lead-I (i.e. one lead) ECGs are handheld electronic devices that could detect AF more accurately than a manual pulse check. If GPs were to routinely use lead-I ECG devices, people with suspected AF could receive treatment while waiting for the AF diagnosis to be confirmed by a 12-lead ECG. This study aimed to assess whether or not the use of lead-I ECGs in GP surgeries could benefit these patients and offer good value for money to the NHS. All studies that examined how well lead-I ECGs identified people with AF were reviewed, and the economic value of using these devices was assessed. No evidence was found that examined the use of lead-I ECGs for people with signs or symptoms of AF. As an alternative, evidence for the use of lead-I ECGs for people with no symptoms of AF was searched for and these data were used to assess value for money. The study found that using a manual pulse check followed by a lead-I ECG offers value for money when compared with a manual pulse check followed by a 12-lead ECG. This is mostly because patients with AF can begin treatment earlier when a GP has access to a lead-I ECG device.

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This report

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