Patient Information Cardiology

A Guide to an Ajmaline Challenge

What is an ajmaline challenge?

An Ajmaline Challenge (also called ajmaline provocation) is a diagnostic test used to determine whether a person has Brugada syndrome.

Why do I need an ajmaline challenge?

Your doctor has recommended an ajmaline challenge because they suspect you may have Brugada syndrome, a condition which affects how electrical signals travel through the heart.

What is Brugada Syndrome?

Brugada syndrome is a disorder that affects the electrical system of the heart, which can increase the risk of developing a fast or abnormal heart rhythm (arrhythmia). This disorder is caused by a fault in the heart's sodium ion channels. These changes alter the chemical balance and electrical activity of the cells and can lead to a disturbance of the heart rhythm.

When the heart beats abnormally, it may not pump blood effectively. This can cause symptoms such as:

- dizziness or light-headedness
- weakness or tiredness
- shortness of breath
- chest pain
- fainting or collapse

Very rarely, serious rhythm disturbances can be life-threatening.

If you have a close family member who has either been diagnosed with the condition or has died young from a suspected heart condition it is very important that all remaining relatives are screened for Brugada syndrome.

In some cases, genes have been identified for Brugada syndrome, however, the list is not complete. It is therefore not possible to be sure that a patient does not have Brugada syndrome even if genetic screening is negative. Please remember that if you are advised to have genetic screening, it will take some time to perform.

What does an ajmaline challenge involve?

The ajmaline challenge is a well-established clinical test. Ajmaline is a drug known as a sodium channel blocker. It is routinely used by doctors or advanced nurse practitioners to prevent abnormal heart rhythms.

ECGs (electrocardiograms) record the electrical signals from inside the heart. Ajmaline is used in this test as it blocks the faulty sodium channels and unmasks ECG changes in those patients who have the Brugada syndrome. In patients with normal cardiac cells, ajmaline has little or no effect on the ECG.

Your practitioner will administer the drug through a vein in your arm and record your ECG every 2 minutes. The ECG will record how your heart reacts to ajmaline, which allows us to collect detailed information about the cause of your potential arrhythmia. The Ajmaline Challenge is undertaken in a setting that allows continuous cardiac monitoring.

Are there any risks or side effects of the ajmaline challenge?

As with any medical test, there are potential risks, but serious complications are very rare. Any risks will be explained fully by your doctor before the procedure.

The effects of ajmaline wear off quickly. By the time you leave hospital, there will be no ajmaline left in your system.

What do I need to do before the test?

Please contact **01225 821479** or **01225 825394** if any of the following apply to you:

- You are pregnant or breastfeeding
- You have an allergy to ajmaline
- You have heart failure

The pre-admission team will discuss if you need to stop any medications prior to the test

Admission

- You can drive yourself to the hospital.
- Please bring all your current medications with you.
- You will meet the advanced nurse practitioner performing the procedure and be asked to sign a consent form.
- An ECG will be performed and a cannula (small tube) inserted into a vein.
- You will be given a hospital gown to wear.

What happens during the ajmaline challenge?

Ajmaline is given as a rapid injection through the cannula while your ECG and blood pressure are monitored continuously. The procedure takes approximately 30 minutes in total.

It is common to notice a metallic taste in your mouth or a warm flushing sensation while the ajmaline is being given. Visual disturbances can occur, but these are rare.

Very rarely (fewer than 1% of patients), ajmaline may trigger a fast heart rhythm. If this happens, it can be treated immediately with cardioversion, which is a safe and well-established treatment. You would be given medication to make you sleepy, and a defibrillator would deliver a controlled electrical shock to restore the heart to its normal rhythm.

The results of the test will be discussed with you before discharge. You may resume normal activities and return to work after the test.

What happens after the ajmaline challenge?

You can be discharged once your heart rate and blood pressure have returned to normal and you are feeling well. This is usually within one hour.

If you have had to be cardioverted, you will need to be monitored for a longer period but if you remain stable you should be able to go home later that day.

If you are diagnosed with Brugada syndrome, your doctor will discuss the results with you and explain any follow-up or treatment that may be needed.

Further Information

If you have any questions, please contact the **Cardiology Day Case Unit** on **01225 825394**.

For additional information, visit: **www.heartrhythmalliance.org/aa/uk**

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