ASY-809.5: Protocol for clonidine stimulation test for GH secretion in children

Clonidine is an alpha-adrenergic agent that can stimulate GH release. It is a hypotensive agent.

ASY-809.5.1: Patient preparation

The test should be performed in the morning after an overnight fast, drinking water only.

ASY-809.5.2: Contraindications

There are no absolute contraindications.

ASY-809.5.3: Procedure

a  Insert a cannula and then rest for 30 minutes prior to the –15’ sample. Oral clonidine 0.15mg/m² body area is given at time 0’ (see normogram for surface area). NB: 0.15mg = 150μg.

b  Take peripheral venous blood sample for GH at: -15”  0’  15’  30’  45’  60’  90’  120’

c  Monitor blood pressure every 30 minutes.

d  Always check standing BP before allowing up and about!

ASY-809.5.4: Side effects

In all subjects a fall in blood pressure of 20-25mmHg and drowsiness may persist for 1-2 hours. Other less common side effects include dry mouth, dizziness and very rarely headache and nausea.

ASY-809.5.5: Interpretation

A normal response is achievement of a peak serum GH of >20mU/L (or 7.5μg/L with our assay where 1μg/L = 2.5mU/L).

Approximately 25% of normal subjects fail to respond.
ASY-809.6: Clonidine stimulation test

You are being investigated for poor growth. One possible cause of growth failure is because your body cannot secrete enough growth hormone. This test is to measure the ability of your pituitary gland (a gland present just behind your nose) to secrete growth hormone after a medication called “clonidine”. In most children this will result in high levels of growth hormone in the blood. This test will help your doctor know whether or not your pituitary gland is secreting growth hormone normally.

Procedure

You are allowed to drink water only from midnight the night before (nothing else to eat or drink). When you get to the Endocrine Tests Centre, your blood pressure and pulse will be taken, as well as your weight and height. A small needle will be inserted into a vein in your arm and a blood sample taken. You will then be given some clonidion tablets (the dose given will depend on your height and weight). Further blood samples will be taken over the next two hours.

Side effects

This test has no major risks but the clonidine usually causes you to feel sleepy. Occasionally people notice a dry mouth or dizziness and very rarely headache or nausea. The sleepiness resolves spontaneously over the morning, although you will probably feel too tired to go to school that day. We suggest you go home and rest. Since clonidine lowers blood pressure, your blood pressure will be monitored throughout the test.

How long will the test take?

You will usually be free to go after about four hours.