Clonidine GH Stimulation Test for Children

**Indication**

Pituitary function tests are often requested in the diagnostic evaluation of short children. The aim under these circumstances is to determine the status of the growth hormone (GH) axis. This test may be combined with a low dose synacthen test and GnRH test.

**Side effects**

There is a greater risk of drowsiness and hypotension in children which may persist for several hours. A longer period of observation may be required.

**Preparation**

Priming with sex steroids is recommended in Prepubertal children who are over 10 years of age (either chronological or bone age). Prescribe Stilboestrol 1mg 12 hourly for 48 hours prior to test (total of 4 doses).

This test must be performed fasting and in the morning (at least 4 hours after any food and drink - although water may taken during the test).

**Requirements**

The following equipment should be immediately available: see protocol for emergency treatment of hypoglycaemia during ITT/glucagon test

1. Liquid drink (squash/milk), food (toast/biscuits)
2. Glucose powder, strong oral glucose solution (as for diabetics)
3. 10% glucose (500 mL) and IV giving set
4. Glucose test strips and lancets etc
5. Hydrocortisone 100mg for IV use
6. 7 plain tubes
7. An intravenous cannula

**Drug administration:** Clonidine 150 micrograms/m² orally

**Procedure**

| time 0 min | take 5 mL blood for fT4, TSH, LH, FSH, prolactin, GH, ACTH, IGF-1, cortisol & testosterone or oestradiol, immediately give oral Clonidine |
| time 30 min | take 3 mL blood for GH |
| time 60 min | take 3 mL blood for GH |
| time 90 min | take 3 mL blood for GH |
| time 120 min | take 3 mL blood for GH |
| time 150 min | take 3 mL blood for GH |
| time 180 min | take 3 mL blood for GH |

**Interpretation**

An adequate GH response is a rise to a value greater than 7micrograms/L (20 mU/L).

**Reference**