

Patient information

Arginine Stimulated Co-peptin Test for Hypotonic Polyuria - Polydipsia Syndrome (Diabetes Insipidus)

Diabetes and Endocrinology Department – Royal Liverpool Hospital

Why do I need the test?

This is a screening test when hypotonic polyuria -polydipsia syndrome, previously known as Diabetes Insipidus is suspected because of your symptoms and other investigations that you have already had.

Diabetes Insipidus, referred to as D.I., is a condition where the kidneys are unable to control the amount of urine produced. It is very different from diabetes mellitus when there is too much sugar in the blood.

The amount of urine produced by the kidneys is regulated by a hormone called anti-diuretic hormone (ADH), or vasopressin. ADH is made by a part of the brain called the hypothalamus and is stored just below the brain, in the pituitary gland, until needed. ADH helps to retain water in the body by stopping the kidneys from producing urine. Adults usually pass around three litres (five pints) of urine per day.

There are two types of Diabetes Insipidus:

Cranial diabetes insipidus occurs when there is not enough ADH in the body to regulate the amount of urine produced. This is the most common cause of diabetes insipidus and may be as a result of pituitary surgery, brain tumour, infection, head injury or sometimes with no obvious cause.

Nephrogenic diabetes insipidus occurs when there is enough ADH in the body, but the kidneys fail to respond to it. This can run in families, or it can be caused by kidney damage.

What are the symptoms?

The two main symptoms of diabetes insipidus are an excessive thirst and needing to pass large amounts of urine. It is possible for you to pass as much as 20 litres (35 pints) in 24hrs.

How is it diagnosed?

You will be invited to come into hospital for a test called an Arginine stimulated co-peptin test. Arginine can stimulate the pituitary gland to secrete AVP hormone. Since we cannot directly measure this hormone, we usually measure the by-product called co-peptin.

Copeptin particularly the stimulated levels can help to determine whether you have DI and if so, whether the problem is at the pituitary level or at the kidney level.

Are there any alternate tests?

There are number of tests available, the arginine test is the safest and the most up to date one to diagnose this condition. On rare occasions when arginine is contraindicated for any reason or when you have already had the arginine test and the results are inconclusive, you will require the concentrated saline test.

What are the risks/side effects?

Mild nausea is common.

Potential rare side effects include headache, vomiting, vertigo, and altered sensation in the face

What happens before the test?

You will be invited to attend the Medical Day Case Unit located at Broadgreen Hospital, having fasted from midnight prior to the test.

You must not eat, drink any tea/coffee/alcohol or smoke from midnight until after the test is completed.

You may drink water up until 2 hours before the test and then nothing at all until after the test.

You must stop taking any desmopressin (antidiuretic medication) or diuretics for at least 24 hours prior to the test

You can continue your usual pituitary hormone replacement

What happens during the test?

On the day of your test nurse will check your details, weigh you and explain the test to you. You will be on the ward for about two hours and supervised by the nurse.

Your blood pressure and pulse will be checked at the start and at the end of the test.

You should remain fasted throughout the test, no food or drink in any form are allowed during the test.

A nurse will put a small tube (cannula) into your vein and blood samples will be taken through this tube, which means you will not have to have lots of needles. There will be another cannula in the opposite arm, to run the arginine infusion.

You will rest for 30 mins. A baseline blood sample is obtained. You will then be given arginine via a cannula as an infusion over 30 minutes. After this, further blood samples will be taken and sent to the lab for analysis.

Once the test is complete, the cannula will be removed and will be allowed to eat and drink normally and take your usual medications.

What will happen after the test?

Once you have completed the test, the results will be reviewed by endocrine doctors, and they will contact you directly if necessary.

Further investigation and management will be discussed in the endocrine clinic.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further Information

If you have any query or do need to speak to doctors, please contact on call endocrine doctor via hospital switch board:

Tel: 0151 706 2000

Text phone number: 18001 0151 706 2000

If you have any worries or questions about the test or the date is inconvenient, please contact the Medical Day Case Unit

Medical Day Case Unit

Tel: 0151 706 2396

Text phone Number: 18001 0151 706 2396

Opening Hours:

07:30 – 20:00 Monday to Thursday

07:30 – 16:00 Friday

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All Trust approved information is available on request in alternative formats, including other languages, easy read, large print, audio, Braille, moon and electronically.

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زانیاری پینوندیدار بهو نهخوشانهی له لایمن تراستهوه پمسهند کر اون، نهگمر داوا بکریت له فورماتیکانی تر دا بریتی له زمانهکانی تر، نیز ی رید (هاسان خویندنهوه)، چاپی گهوره، شریتی دهنگ، هیلی موون و نعلیکترونیکی همیه.

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