GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Aneurin Bevan University Health Board

Information Leaflet

Prostatic Artery Embolisation (PAE)

Department of Radiology

This leaflet provides some further information for patients on prostate artery embolisation PAE.

This leaflet tells you about having prostate artery embolisation (PAE). It explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor but can act as a starting point for such discussions. If you have any questions about the procedure, please ask the doctor who has referred you or the department which is going to perform it.

What is Prostate Artery Embolisation (PAE)?
PAE is a non-surgical way of treating an enlarged and troublesome prostate by blocking off the arteries that feed the gland and making it shrink. It is performed by an interventional radiologist (image guided surgeon), rather than an urologist, and is an alternative to a TURP (transurethral resection of prostate) or other prostate operations including laser surgery. PAE was first performed in 2009, and since then over 900 men have had the procedure performed predominantly in Portugal, Brazil and the USA. PAE was approved as a treatment for benign prostatic enlargement (BPE) by NICE in 2018 and is one of the several treatment options available for this condition.

Why might I need prostate artery embolisation?
Other tests that you have had done will have shown that you are suffering from an enlarged prostate, and that this is causing you considerable symptoms. Your urologist and your GP should have told you all about the ways of dealing with this, usually starting with medication. Previously, most severe prostatic symptoms have been treated by a TURP operation. In your case, it has been decided that embolisation is an alternative treatment worth considering.

Who has made the decision?

The Urologist and Interventional Radiologist will have discussed your situation, and consider that you would want to consider embolisation under the care of the Interventional Radiologist. However, it is very important that you have had the opportunity for your opinion to be taken into account.

If, after full discussion with your doctors, you do not want the PAE carried out, then please let us know.

Who will be doing the procedure?

Specially trained doctors called interventional radiologists (Image guided surgeons). Interventional radiologists have special expertise in using x-ray equipment, and also in interpreting the images produced. They need to look at these images while carrying out the procedure. Consequently, interventional radiologists are the best trained people to insert needles and fine catheters into blood vessels, through the skin, and place them correctly.

The procedure takes place in a specialised x-ray room called an angio suite / theatre.

How do I prepare for prostate artery embolisation?

You need to be admitted to the hospital usually as a day case. You will probably be asked not to eat for four hours beforehand, though you may be told that it is alright to drink some water. You may receive a sedative to relieve anxiety. You will be asked to put on a hospital gown as the procedure is generally carried out using the artery in the groin or wrist. A urinary catheter will be inserted in the day case unit prior to the procedure and will stay in place for 48 hours after the procedure. This is to ensure that you have no problems passing urine during and immediately after the procedure.

If you have any allergies, you must let your doctor know. If you have previously reacted to contrast medium, for example after receiving dye for CT scanning then you must tell us about this.

What happens during prostate artery embolisation?

You will lie on the x-ray table, generally flat on your back. You need to have a needle put into a vein in your arm, so that you can have a sedative and painkillers if required. You may also have a monitoring device attached to your chest and finger, and may be given oxygen through small tubes in your nose. The interventional radiologist will keep everything sterile and will wear a theatre gown and operating gloves. The skin near the point of insertion, groin or wrist, will be swabbed with antiseptic and covered with a theatre drape.

The skin and deeper tissues over the artery in the groin or wrist will be anaesthetised with local anaesthetic, and then a needle will be inserted into this artery. Once the interventional radiologist is satisfied that this is correctly positioned, a guide wire is placed through the needle, and into this artery. Then the needle is withdrawn allowing a fine, plastic tube, called a catheter, to be placed over the wire and into this artery.

The interventional radiologist will use the x-ray equipment to make sure that the catheter and the wire are then moved into the correct position, into the other arteries which are feeding the prostate. These arteries are quite small and rather variable. A special x-ray dye, called contrast medium, is injected down the catheter into these prostate arteries, and this may give you a hot feeling in the pelvis. The interventional radiologist may then perform a CT scan like technique where the x-ray tube rotates around the table and the images are then processed by a powerful computer to make sure no abnormal arterial connections are present. Once the prostate blood supply has been identified, fluid containing thousands of tiny particles is injected through the catheter into these small arteries which nourish the prostate. This silts up these small blood vessels and blocks them so that the prostate is starved of its blood supply.

Both the right and the left prostatic arteries need to be blocked in this way. It can often all be done from a single artery puncture but occasionally two are required. At the end of the procedure, the catheter is withdrawn, and pressure is applied to prevent any bleeding.

Will it hurt?

When the local anaesthetic is injected, it will sting for a short while, but this soon wears off. You may have a small bruise after the procedure.

How long will it take?
Every patient is different, and it is not always easy to predict; however, expect to be in the radiology department for about 2-3 hours.

What happens afterwards?
Following the procedure you will be taken back to your room where you will be looked after by nursing staff familiar with the procedure. Nursing staff will carry out routine observations including pulse and blood pressure.

Are there any risks?
Prostate artery embolisation is a fairly new procedure and NICE has deemed it safe, but there are some risks and complications that can arise, as with any medical treatment.

There may occasionally be a small bruise, called a haematoma, at the site of needle puncture into the artery and this is quite normal. If this becomes a large bruise, then there is the risk of infection, and antibiotics maybe required.

Most patients feel some pain afterwards; this is usually mild. You will receive some pain killers to take home after the procedure and they are usually sufficient to control the pain and discomfort. A urinary catheter will be inserted for 48 hours to ensure you have no problem passing urine during and immediately after the procedure. This will be removed by trained nursing staff in the urology day case unit on floor 0, in the Royal Gwent Hospital. Non-target embolisation with damage to the bladder and rectum has been seen very rarely in larger overseas series. These risks appear small and will be discussed at the time of your consent for treatment.

What are the results?
There are a few medium term studies. However over 70% of men will gain symptomatic improvement after PAE with reduction in prostate volumes and an increase in urinary flow rates. Difficulty in finding tortuous or small prostate arteries may lead to technical failures in

around 10% of cases. In case of failure traditional TURP surgery may be offered.

What are the alternatives to PAE?
There are several alternatives to treat BPE and your urologist will have already have discussed these with you:

- Bladder outflow surgery remains the gold standard treatment to improve urinary symptoms, with proven long-term success.
- The Royal Gwent is one of the few centres in the UK that provides Holmium Laser Enucleation of the Prostate (HoLEP), which has been shown to be superior to TURP for prostates over 80cc in volume.
- Other treatments for BPE (and the dates of their approval by NICE if relevant) include:
    - Medication
    - Urolift (insertion of small treasury tags into prostate) (2015)
    - Green light laser vaporisation of prostate (2016)
    - Transurethral water vapour ablation (high pressure steam) (2018)
    - Transurethral water jet ablation has also been reported and while no major safety concerns have been highlighted, NICE has not yet fully endorsed its use (2018).

More information:

British Society of Interventional Radiology (BSIR).
https://www.bsir.org/patients/pae-patient-information-leaflet/

National Institute of Heath and Care Excellence (NICE).
https://www.nice.org.uk/guidance/ipg611

Contact Details:

Radiology nursing

Royal Gwent Hospital Tel: 01633 234327

“This document is available in Welsh /
Mae’r ddogfen hon ar gael yn Gymraeg”.