

## FALSE ANEURYSMS

### What is a false aneurysm?

A false aneurysm is a swelling in the groin area, which can be a complication of an arteriogram (angiogram). This is a diagnostic test that is used to investigate blocked or narrowed arteries in the heart, legs, kidneys, arms and neck: in all cases a fine catheter (tube) is placed into the artery in the groin under local anaesthetic. It is often possible to stretch areas of blocked or narrowed arteries with a balloon (angioplasty) at the same time. In 1 to 2% of cases the small hole in the artery does not seal properly leading to a persistent swelling in the groin that has a pulse- this is a false aneurysm. A proportion of false aneurysms will clot off with time in which case no further treatment is needed. Some false aneurysms continue to expand and carry a risk of rupturing which would then need urgent surgery. Several treatments are available to prevent this problem occurring.

### Tests

The diagnostic test for a false aneurysm is a Duplex scan. This is an ultrasound-based test that will measure the size of the swelling, identify where the problem is arising from and enable the correct treatment to be given.

### Treatment

The three most effective treatments are discussed below. Consent will need to be given for all these procedures.

#### **Ultrasound-guided compression**

This is usually the first treatment that is tried. The ultrasound probe is used to press over the swelling in the groin, preventing flow into the false aneurysm, allowing it to clot. Pressure is needed for 10 minutes at a time and may need to be repeated several times. This can be quite painful: a strong painkiller will be given before the procedure to try and prevent this. Success rates of up to 80% have been reported with this method. If this does not work, then further treatment will be needed, either surgery or thrombin injection (see below).

#### **Surgery**

False aneurysms can be treated by surgery. This may be as simple as stitching a hole in the artery or may need a more complex procedure such as closing the artery with a patch or replacing a segment of the artery with a graft. However, this procedure needs a general anaesthetic, which may not be advisable in patients with heart disease, respiratory problems or kidney failure. Complications from the procedure could include bleeding, bruising, wound infection, blockage of the artery (needing further surgery) and rarely losing the leg. If all goes well, patients would normally be discharged from hospital after 7 days.

### Thrombin injection

Thrombin is a protein present in the blood in low concentrations that is involved in blood clotting. It is possible to inject a solution of thrombin into the false aneurysm under ultrasound guidance, which would cause this to clot rapidly, often in 10 to 15 seconds. This is a relatively painless procedure, as it needs a single injection using a very small diameter needle. Success rates of up to 98% have been reported by a number of hospitals in the UK, Europe and USA. Patients can normally be discharged home the following day.

However, there are risks associated with the procedure. If the thrombin solution enters the main artery, this will clot quickly and would need urgent surgery to deal with this. Some patients could develop an allergic reaction to thrombin e.g. shortness of breath, wheezing, swelling of the face or tongue, a rash or itching. This may need treatment with antihistamines and rarely steroids. The thrombin used is obtained from human blood. As with any blood product, this carries a risk of virus transmission. The manufacturers have ensured that all donors are negative for both hepatitis and HIV infection. *Thrombin injections should not be used if you are pregnant, if you have any problems with blood clotting or if you have any problems with your immune system.* It is important to note that the thrombin used is only licensed for use outside an artery as tissue glue: treatment of false aneurysms is therefore an unlicensed use of the drug.

The National Institute for Clinical Excellence have provisionally approved thrombin injection as a treatment for false aneurysms (<http://www.nice.org.uk/cms/ip/ipcat.aspx?o=56947>).

Your doctor will advise you on which treatment option is best for you and will answer your questions.

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