

Directorate of Neurosciences

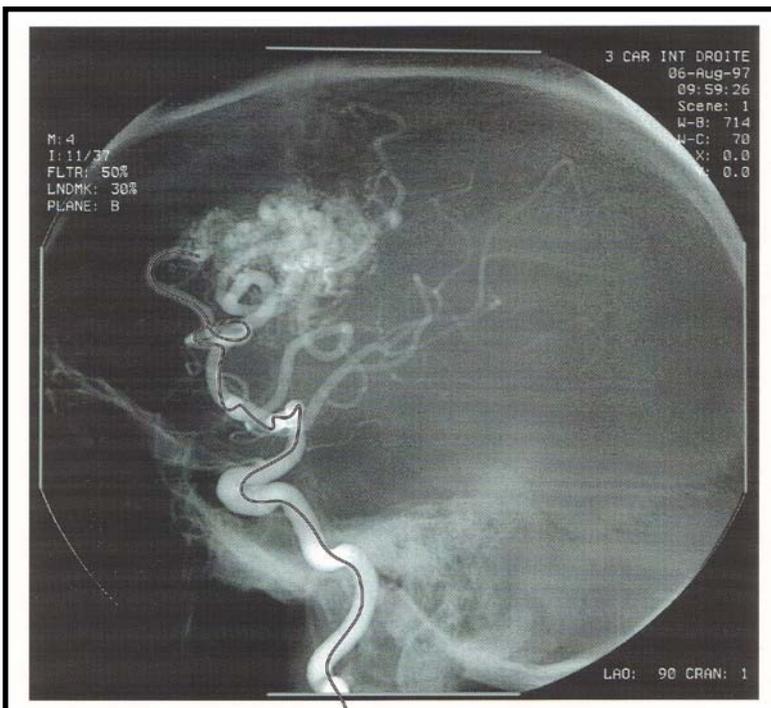
AVM Embolisation A Guide for Patients

Introduction

This information is about the treatment of an AVM and post procedure care. The embolisation will be carried out in the Neuroradiology Department at the Royal Victoria Infirmary.

What is an Arterio-Venous Malformation (AVM)?

An AVM is a tangled mass of malformed blood vessels. These blood vessels are enlarged and therefore have a risk of bleeding.



An image showing an AVM with a small catheter positioned in the cerebral vessels allowing both imaging and treatment of the AVM

How can AVM's be treated?

There are three main ways of treating an AVM:

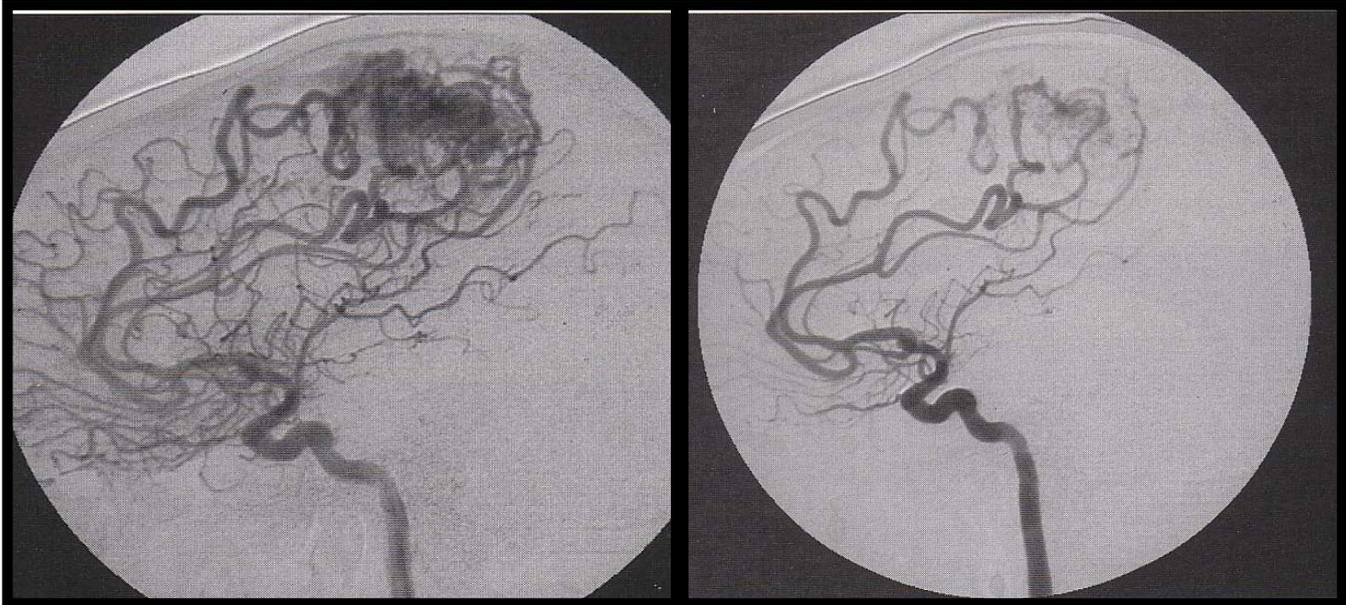
1. Embolisation
2. Stereotactic Radiosurgery
3. Neurosurgery

Your consultant will discuss with you the most appropriate method of treating your AVM.

What is an Embolisation?

An embolisation is a way of treating an AVM so it is no longer at risk from bleeding. AVMs are treated using specially manufactured materials which are injected into the vessels of the AVM and are designed to reduce the flow through the vessels. In most circumstances embolisation is used to shrink an AVM so that it is suitable for radiosurgery or neurosurgery. Sometimes embolisation can treat an AVM completely.

The procedure is usually carried out in several stages involving separate admissions to hospital usually over a period of months.



X-ray angiogram images of an AVM before and after embolisation

What is Stereotactic Radiosurgery?

Stereotactic Radiosurgery is a single treatment of high dose radiation directed specifically at the centre of the AVM. This treatment is sometimes referred to as 'gamma knife' surgery however, despite its name, this procedure does not entail any surgical operation.

What is Neurosurgery?

Neurosurgery is the longest established treatment option for AVM's. It involves creating an opening in the skull, called a craniotomy, allowing the neurosurgeon to surgically remove the AVM.

The staff you will meet prior to embolisation

- Neuroradiologists are doctors who carry out embolisations.
- Neuroradiographers are trained in all x-ray imaging and will be responsible for obtaining the images during the procedure.
- Neuroradiology nurses work with the Neuroradiologist during the procedure.
- Anaesthetists will look after you during your anaesthetic.

What happens before the embolisation?

- You may already be in hospital, if not you will be sent a date to come in for the procedure.
- Before your embolisation, often in the pre-admission clinic, the Neuroradiologist will explain the procedure and its associated risks and answer any questions you may have. The Neuroradiologist will ask for your written consent to carry out the procedure.
- You must not have anything to eat or drink from 3am on the day of your embolisation.
- You will be asked to arrive on Ward 17 at 8.15am on the morning of your procedure and shall be checked in by the nursing staff.

If any of the following apply to you, please ring the Neuroradiology Department for advice as soon as possible on telephone no. 0191 282 5408 between 8.30am and 5pm Monday to Friday:

- You take Warfarin (a blood thinning tablet).
- You are a diabetic or take Metformin.
- You think you may be allergic to x-ray dye.
- There is a possibility you may be pregnant. If you have attended the pre-admission clinic in preparation for your procedure the nurse may have already advised you to contact the team regarding this.

Most medicines should be taken as normal. Please bring any medication or inhalers with you when you come into hospital.

What happens during your embolisation?

- Your embolisation will take place in the angiogram theatre.
- You will be asked to lie on the x-ray table and the anaesthetist will give you a general anaesthetic, so you will be fully asleep throughout your embolisation.
- Once you are asleep the neuroradiologist will begin the procedure by inserting a small tube into the blood vessel at the top of your leg (this is called a sheath). The whole of the embolisation will be carried out through this sheath. A small catheter is placed through the sheath and moved up through the body and into the AVM.
- The embolic material (glue like material) is then injected via this catheter until the blood flow to your AVM is reduced. We can see the whole procedure using the x-ray machine.
- When the embolisation is finished the anaesthetist will wake you up and you will be taken, on your bed, to the recovery ward in theatres.

What happens after your embolisation?

When you are completely awake you will be transferred to Ward 18 Critical Care Unit for close observation where you will stay overnight. Your allocated nurse will take your blood pressure and pulse, and check your groin and foot pulses every two hours throughout your stay. You will be attached to a monitor which allows

the nursing staff to observe your blood pressure, pulse and breathing rate. Your progress will be reviewed the morning after your procedure by the medical team, who will decide when you can be transferred to a neurosurgical ward (ward 15 or 16). You may be in hospital for a few days following your embolisation. Before discharge home your nurse will discuss medications, taking time off from work, driving and recommencement of exercise.

A minority of patients may experience localised scalp problems for some weeks or months following this procedure, which are related to the x-ray machine. This depends on how complex and lengthy the procedure turns out to be on the day, and cannot be predicted beforehand. You may well not experience any such problems; however if you do notice an area of skin irritation or hair loss, it is our experience that this is temporary. The irritation can be moisturised with aqueous cream and an area of hair loss will be more sensitive to strong sunlight until hair regrowth.

You may also be aware of some bruising at the top of your leg where the catheter was inserted. We would expect this to reduce over a number of days.

What happens after you leave hospital?

Any further imaging or treatment will be discussed with you and arranged by the Department of Neuroradiology.

If you have any questions concerning this procedure please ring the Neuroradiology Department.

Tel no. 0191 2825408 between 8.30am and 5pm Monday to Friday.

Who to contact if out of normal working hours

If you have any problems after your procedure please contact the ward where you were an in-patient and speak to the nurse in charge for advice on telephone number 0191 233 6161

Other contacts

Patient Advice and Liaison Service: Freephone: 0800 0320202

Text: 01670 511098 Email: northoftynepals@nhct.nhs.uk

Freepost: RLTC-SGHH-EGXJ

North of Tyne PALS

The Old Stables

Grey's Yard

Morpeth

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This leaflet is available in alternative formats on request by telephoning 0191 2825413 (Monday to Friday 8.45am to 5pm)

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