MELBOURNE NEUROSURGERY

PROCEDURE INFORMATION

CRANIOTOMY FOR ARTERIO-VENOUS MALFORMATION (elective)

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WHAT IS AN ARTERIO - VENOUS MALFORMATION?

An ARTERIO-VENOUS MALFORMATION (A.V.M.) is an abnormality of blood vessels in the brain that is usually congenital(from birth). There are normally very small blood vessels between the Arteries(high pressure blood vessels supplying the brain) and the Veins (low pressure blood vessels draining the brain). In an A.V.M. there is a short-cut allowing a rapid flow of high pressure blood into low pressure vessels. There is a risk of the low pressure vessels rupturing to produce a haemorrhage (type of stroke).

WHAT IS A CRANIOTOMY ?

This is where a disc of bone is removed from the skull with a special tool to allow access to the brain. A scalp flap is opened before this and the lining of the brain opened after. Everything is put back together at the end of the operation

WHAT ARE THE REASONS FOR REMOVAL?

The commonest reason is that it has bled. It has a small risk of bleeding and if the A.V.M. is able to be removed safely then this is usually recommended. Sometimes the blood going through the A.VM. steals blood from another part of the brain producing weakness or other symptoms. There is a risk of seizures developing. If it is not removed it can sometimes bleed to produce a stroke or death.

If you have had a large hemorrhage so that you are drowsy or unconscious then a relative will be contacted to give consent for the procedure.

To prepare for surgery you will have a lot of tests. You will probably have had an M.R.I. and C.T. scan. You will have had an angiogram to look at the blood vessels of the brain and the A.V.M. We may block the blood vessels to the A.V.M. during an angiogram to make the surgery less difficult (called Embolisation).

WHAT YOU NEED TO TELL THE DOCTOR BEFORE SURGERY ?

If you have clotting problems.

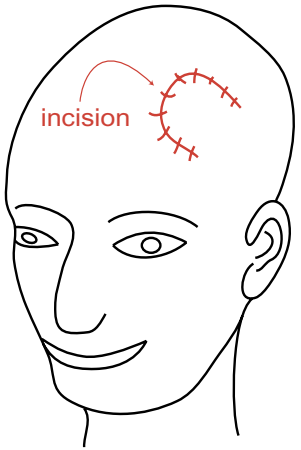
Any recent new Health problems.

If you are taking blood thinning agents.

e.g. Warfarin/aspirin/anti- inflammatory

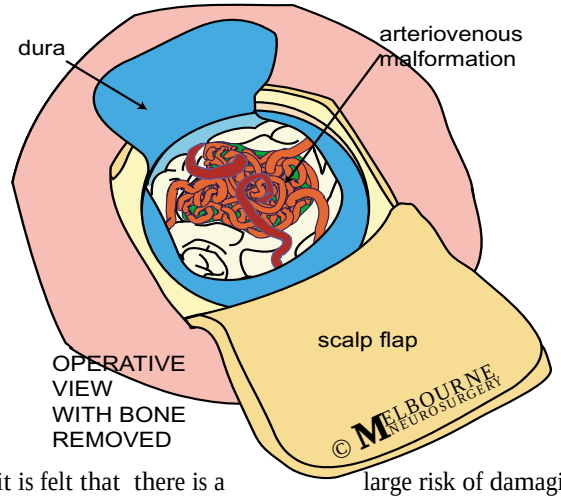
Drug or other allergies

HOW IS IT PERFORMED ?



In the operating theatre you are given a general anaesthetic and then positioned with the lesion uppermost. The area of the incision which is over the A.V.M. is then shaved and prepared with anti-septic. You are covered in drapes so that only the incision can be seen. Local anaesthetic is injected and then the skin is cut. A hole in the bone is drilled down to the dura then a special drill cuts the disc of bone which is lifted off the dura.

The dura is cut to expose the brain. A computer is often used to help locate the A.V.M.in the brain. The vessels of the A.V.M. are carefully dissected out of the brain and the feeding arteries are progressively clipped off to reduce the blood flow. After all the feeding arteries are found and clipped the whole lesion is removed.



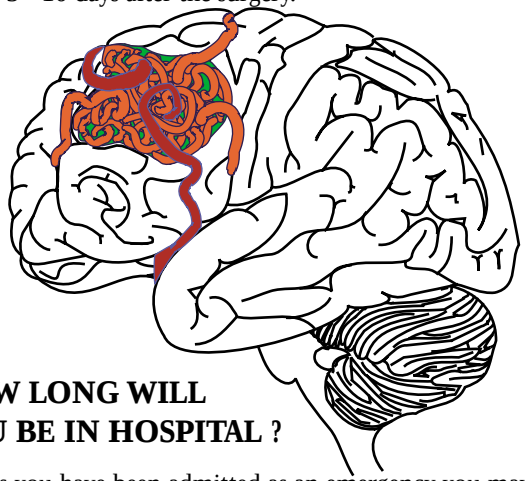
If it is felt that there is a large risk of damaging the normal brain or blood vessels then some may be left behind. Once removed all bleeding is stopped. Everything is then repositioned the way we found it. The bone is plated back into position. The skin is then closed either with nylon suture or with special staples.

You may have a further angiogram to confirm complete removal on the day after surgery.

WHAT HAPPENS NEXT ?

You will wake up in recovery and after about 1 hour you will be transferred to the ward. The nursing staff will be continually checking your pulse/blood pressure/limb strenghts and level of alertness looking for any changes to indicate a complication. During the first night on the ward you will be woken for these observations. You will have intramuscular and oral analgesia . Operations on the head do not often hurt much.
Sometimes you will have difficulty passing water and you may require a catheter(this may have been inserted for the operation).

In the next day or so the drip in your arm will be removed. Usually this is the day after surgery. The first day post operatively you will be encouraged to go for a walk. Gradually over the next two days you will be able to get around as normal. When you are comfortable you will be able to go home. You may have a repeat scan of your head before going home. Commonly you will have a headache for a while after the operation. The sutures are usually removed about 5 - 10 days after the surgery.



HOW LONG WILL YOU BE IN HOSPITAL ?

Unless you have been admitted as an emergency you may be admitted on the day of surgery or the day before. You will fast from midnight on the day of surgery.
You will be discharged about 5-7 days post-operatively.
On discharge you will be able to perform most tasks of daily living (e.g. showering/dressing/etc.) Depending on how quickly you recover from any preoperative disability you may require rehabilitation.

WHAT YOU SHOULD NOTIFY YOUR DOCTOR OF AFTER SURGERY

Increasing Headache
Fever
Fitting
Swelling or infection in the wound.
Fluid leaking from the wound.
Weakness or numbness
Drowsiness

WHAT HAPPENS WHEN YOU GO HOME ?

You will be tired
It is common to require a rest in the afternoon
You may have intermittant headaches.
These will all improve with time.
You will not be able to drive for 3 months.
You will be reviewed at 4 - 6 weeks post operatively
You will be taking a drug to stop you having a fit(seizure).

WHAT ARE THE RISKS?

Discuss these and others with your surgeon

THE COMMON RISKS ARE
Incomplete removal of A.V.M.
Infection (treated with antibiotics)
Post operative blood clot requiring drainage.
Stroke
Seizure
Death (rare)
Clot in the legs(can travel to the lungs[uncommon])
Complication not related directly to the surgery
e.g. Pneumonia
Heart attack
Urine infection

IS THERE A CHANCE OF A RECURRENCE OF THE A.V.M. ?

It depends on what is found at surgery and if it can be completely removed. If some is left behind then there is a chance of that growing and also still a risk of bleeding (this depends how much is left).

WILL YOUR SYMPTOMS GET BETTER ?

This depends on the reason for removal of the A.V.M. You should discuss this with your surgeon. It is important to remember that there is an early risk of seizures and it is essential to not place yourself in a position where if a seizure occurs you are at risk of harm.

YOU WILL BE ASKED TO SIGN A CONSENT FORM TO SAY THAT YOU UNDERSTAND THE RISKS .
IF YOU ARE NOT SURE ASK BEFORE YOU SIGN.

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