

Procedures/Diagnostic tests: Interventional radiology

Percutaneous Hepatic Arterial Perfusion of Melphalan with Venous Filtration

You have been scheduled for a procedure called Percutaneous Hepatic Perfusion with Venous Filtration. “Percutaneous” means through the skin. Hepatic refers to the liver. “Arterial perfusion” means that an artery will be used to deliver chemotherapy (Melphalan) to your liver. A vein leading away from the liver will carry the chemotherapy out of your body and back to a catheter which is attached to a filter system (venous filtration). This returns filtered blood back to your body.

This is a new method to treat liver tumors that cannot be removed by surgery. The procedure uses Melphalan in a new way, in the hopes of reducing tumor size.

Preparation

You will have a physical exam, a CT (computed tomography) scan of your chest, abdomen and pelvis, and an MRI (magnetic resonance imaging) scan of your liver. You will also have blood tests, a chest X-ray, an EKG, and other tests your doctor feels are necessary.

An interventional radiologist and surgeon will meet with you to explain the procedure. They will review the risks of the procedure and answer your questions. When you understand what will happen, you will be asked to sign a consent form giving us permission to do the procedure.

Since you will be under general anesthesia for this procedure, staff of the Department of Anesthesia and Surgical Services will meet with you to discuss how you will be sedated.

Do not eat or drink anything after midnight, the night before your procedure.

Procedure

- The anesthesiologist will sedate you for the procedure.
- A urinary catheter will be placed into your bladder to monitor your urine output and kidney function.
- Your vital signs (heart rate and rhythm, blood pressure, breathing and temperature) will be constantly checked during the procedure. From time to time your blood will be drawn for lab tests.
- You will have tubes (catheters) placed for this procedure. Your skin will be cleansed where the catheters will be placed and a local anesthetic will be used to numb the areas.

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- Using ultrasound and fluoroscopy (“real-time” x ray) a radiologist will insert catheters into veins in your neck, or under your collarbone. One is for returning your filtered blood and one is for medicines and I.V. fluids.
 - The catheters inserted into your groin(s) will be placed into the arteries and veins supplying blood to your liver. Contrast dye will be injected and an x-ray will be taken to check the arteries supplying blood to your liver.
 - A double-balloon catheter will be placed from your groin to your vena cava, the large vein that carries blood from the lower half of your body to your heart. The balloons are inflated to block the blood flow from your liver to the rest of your body. This catheter allows Melphalan to travel through your liver to treat your tumor.
 - After Melphalan has traveled through your liver, as much medication as possible will be removed from your blood by an external pump and filter. Your filtered blood will be returned to you through a catheter in your neck.

After the procedure

- You will be taken to the ICU where you will be closely monitored for at least 24 hours.
- Your pulse will be checked and your vital signs (blood pressure, EKG, breathing, oxygen saturation, temperature and urine output) will be closely monitored.
- The catheters will be removed and the sites will be closely watched for bleeding and swelling.

Special instructions

Please call your nurse/physician if you have any of the following symptoms:

- Bleeding
Hold firm pressure to the area and call your nurse immediately. If you are home, hold pressure for 10 minutes. If bleeding has not stopped, call your NIH doctor or 911.
- Fever over 101 degrees F or 38.5 centigrade or as directed by your clinic staff
- Nausea/vomiting
- Shortness of breath or difficulty breathing
- Pain
- Tenderness
- Numbness or tingling
- Redness or swelling
- Foul-smelling drainage
- Weakness
- Dizziness

After discharge, if you have any of the above problems or concerns please contact your primary care doctor or nurse. If you have any symptoms that you feel are severe call 911 or go to your closest Emergency Room. If possible, bring this sheet.

Contact NIH for routine questions or problems.

- During the day call NIH Surgery Branch research nurses at 301-435-4012 or 301-402-8475.
- After 4 pm on weekdays, or weekends and holidays, call the NIH page operator at 301-496-1211, and ask the page operator to page the surgery fellow on call.

If you have any questions about this procedure, please ask. Your nurse and doctor are always ready to assist you.

This information is prepared specifically for persons taking part in clinical research at the National Institutes of Health Clinical Center and may not apply to patients elsewhere. If you have questions about the information presented here, talk to a member of your health care team.

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Questions about the Clinical Center?
<http://www.cc.nih.gov/comments.shtml>

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