

△ GENERAL INFORMATION

Nearly the entire intestine drains its blood, with all the nourishment in it from the digested food, into the *portal vein*. The blood in the portal vein passes through the liver, which processes all this nourishment. The blood then leaves the liver to continue into the vena cava and on to the heart.

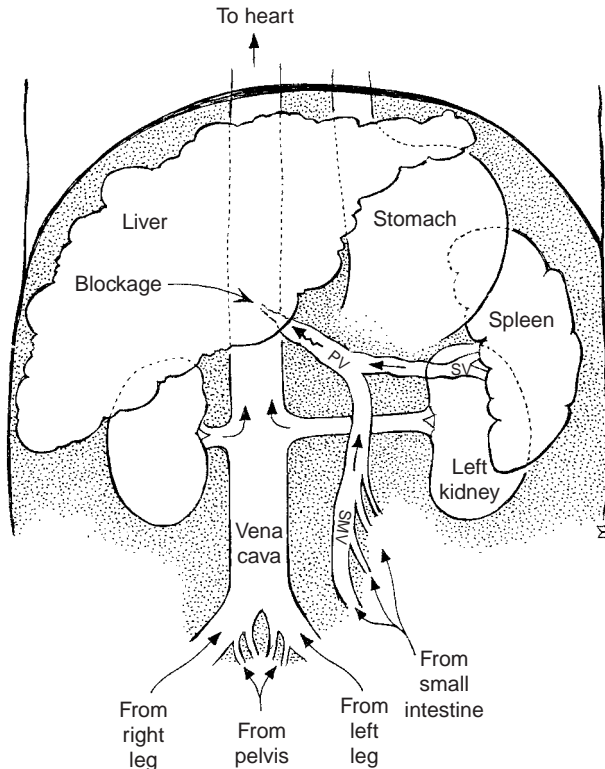


Figure 1. Blockage of flow of blood in the portal vein (PV). SV, splenic vein; SMV, superior mesenteric vein.

If the liver is chronically diseased (most commonly with cirrhosis), scar tissue forms in the liver and blocks the flow of the portal vein (Fig. 1). This causes the pressure in the portal vein to increase (*portal hypertension*) and all the veins to swell. The veins draining the intestine find detour veins to reach the heart. Some of these detour veins are just under the lining of the esophagus. These swollen detour veins in the esophagus can hemorrhage, causing serious problems.

COMMON SIGNS AND SYMPTOMS

- The swollen veins in the esophagus can rupture and hemorrhage.
- The spleen, which is an important organ in the left part of your upper abdomen, cannot work properly because it is swollen with backed-up blood.
- Nutrition suffers because a lot of the blood with all its nourishment from the small bowel detours around the liver.
- Mental confusion: The bowel blood with some of its waste products detours around the liver, where it

normally is cleansed, and instead goes directly to the brain, which causes mental confusion.

- Fluid (called *ascites*) can accumulate in the abdomen.

DIAGNOSIS

- The diagnosis can be suspected by taking a detailed history and doing a thorough physical examination.
- Extensive examinations of the blood and of liver function are essential.
- *Esophagogram*: You will be given barium to swallow (it looks and flows like buttermilk). X-rays will be taken as the barium goes down the esophagus. Often, these x-rays can show the dilated veins.
- *Esophagoscopy*: This is done with an optical instrument that is smooth, flexible, and as big around as your little finger, with a light at its tip. Your mouth and throat will be sprayed with an anesthetic to make them numb. Also, you will be given medicine to make you feel very drowsy. The instrument will be placed gently down your esophagus so that the esophagus can be examined thoroughly to determine the presence and condition of any swollen veins carrying the detoured blood.
- Sometimes a tiny piece of the liver is taken (a *biopsy*) with a special needle and examined under the microscope to show the state of the cirrhosis.

○ TREATMENT

- The treatment of portal hypertension depends on the following:
 - The size of the dilated veins in the lining of the esophagus.
 - The location of these dilated veins.
 - The condition of the liver (cirrhosis).
 - Whether these dilated veins have bled before, how seriously, and whether this is continuing.
 - Any associated illness and the general condition of the individual.
 - Whether the problem is caused by a diseased liver or something entirely separate from any liver disease.
- Because the distended veins can manifest in different ways, different treatments usually are appropriate. These can include the following:
 - Observation only.
 - Medical therapy only.
 - Clotting the veins in the esophagus (so they cannot bleed).
 - Making a small incision in the neck and inserting a small surgical gadget in the neck vein that can be advanced down to the liver to make a new connection to improve the flow of blood in the portal vein.
 - Performing an open operation and making a large new connection for the portal vein to relieve the pressure in it as well as in the veins in the esophagus.

- Possibly performing a transplant and replacing the diseased liver.

After very careful consideration of all factors, the recommendation is that you have an operation to make the biggest new connection possible. In this operation, a short length of synthetic tubing that is roughly as big as the tip of your little finger will be used to make a connection between your mesenteric vein and your vena cava, which is wide open. This is called a *mesocaval shunt* (Fig. 2).

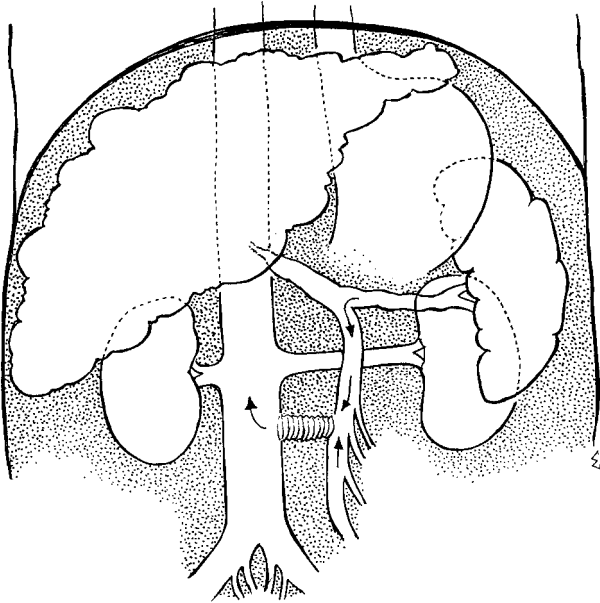


Figure 2. The flow of blood in the portal vein is blocked. A synthetic tube is used to connect the superior mesenteric vein with the inferior vena cava, which is wide open. Now the blood can flow freely (see arrows).

PREOPERATIVE PREPARATION

- Your blood, heart (EKG), kidneys, and lungs (chest x-ray) will be examined with great care. Any problems found in these areas will be corrected as much as possible.
- Do not eat or drink anything for 8 hours before the operation.

□ OPERATION

- You will be asleep for the operation.
- Occasionally, during the operation it is not possible to make the new connection as planned. If this is the case, then one of the alternate methods will be used.
- You will receive a blood transfusion if it is necessary.
- The operation usually takes about 5 hours.

POSTOPERATIVE CARE

- You will be taken to the Surgical Care Unit, where the doctors and nurses are very experienced in taking care of patients with your condition. As soon as you are coming along well enough, you will be transferred to a regular hospital room.
- You will have a thin plastic tube in your nose. It goes down to your stomach to suck up the air you swallow. It will be removed when your bowels start working.
- Pain will be controlled with medicine.
- The next day you will be helped to get out of bed.
- You will be given an incentive spirometer. Breathing into this as you are instructed will help you expand your lungs and reduce the risk of developing pneumonia.
- After the tube in your nose is removed, your diet will be as you tolerate it.
- You should be able to go home in about 10 days.
- Arrangements will be made for your medicine, follow-up office visit, and stitch or clip removal.

⊕ HOME CARE

- You may walk about as you wish, even climb stairs, but don't overdo things.
- Take the medicines prescribed for you.
- Unless instructed otherwise, you may shower as you wish, with any dressings on or off. After you dry yourself, replace any dressings with clean, dry ones.
- Do not drive a car until we first talk about it.

📞 CALL OUR OFFICE IF

- You develop any unusual signs or symptoms, especially any type of vomiting.
- Your bowel movements are very dark.
- The incision becomes swollen or there is drainage from it.
- You develop a temperature higher than 101°F.
- You have any questions.