

Portal vein embolisation (PVE)

What is PVE?

Sometimes, the tumours are located in such a manner within the liver that a large part of the liver needs to be removed. For example the entire right lobe and part of the left lobe may need to be removed – which is called an extended right hepatectomy. But the amount of liver that will then be left behind may be too small and the patient will run a very high risk of developing liver failure. This applies particularly to situations where less than 25% of the total volume of the liver is likely to be left behind (or, in patients with chronic liver disease, less than 40% of the liver will be left behind). In such situations, it is possible to block off the portal vein inflow of blood into the parts of the liver that are going to be removed. They then start to shrink (atrophy) while the rest of the liver (the part that is going to be left behind) starts to grow. In a period of 2 to 6 weeks, substantial growth may be seen, and a surgical resection may become possible.

How is it done?

The procedure itself involves a puncture of the liver to inject glue-like material into the relevant branch of the portal vein. This done in the x-ray department by a radiologist, using ultrasound and angiography techniques to direct the needle into the correct position. It is usually done as a day case or involves an overnight stay in hospital. Alternatively the branch of the portal vein may be tied off during a surgical operation.

What are the risks?

There are some risks involved, including bleeding or bile leak from the puncture into the liver. Spillage of the glue into parts of the circulation is another small risk. It is difficult to predict exactly how much liver growth this procedure will cause in a particular patient, and one has to wait and see.