A guide to understanding advanced liver disease

Information for patients and carers about varices and variceal bleeding

Introduction

Welcome to your guide to understanding advanced liver disease and **varices** and **variceal bleeding**. Throughout this guide, any unusual terms are highlighted in bold and explained at the end of this leaflet in the glossary. If you have any questions, remember to ask your doctor or nurse at your next appointment. We hope you find it informative and useful.

There are five other booklets available in this series that cover a range of topics, including **hepatic encephalopathy**, general health and wellness, **ascites**, **hepatocellular carcinoma** and nutrition. If any of these interest you, be sure to ask your doctor about them.

Contents

What is liver cirrhosis?

When a healthy liver gets injured by a virus, a toxin like alcohol or another specific liver disease, it repairs itself by replacing damaged cells with new ones. This is usually an efficient process but, when too much damage occurs and/or lasts a number of years, some of this repair work can leave scars. This is known as '**cirrhosis**'. At this point, if care is taken, the liver can usually cope with the damage and maintain its important functions. During this period, which can last years, there can be very few symptoms or even none at all.

In advanced liver disease, the scarring can become so great that the liver can no longer repair itself or function properly.

This can cause associated conditions like hepatic encephalopathy, ascites, variceal bleeds or hepatocellular carcinoma. In this booklet, we focus on the associated condition of variceal bleeding.

Advanced liver disease and cirrhosis can have several causes including long term alcohol abuse, viral infection such as **hepatitis B or C**, metabolic diseases such as **non-alcoholic related fatty liver disease (NAFLD)**, or other conditions such as autoimmune hepatitis.

Why can cirrhosis lead to varices and variceal bleeding?

When the liver is scarred, it increases the pressure inside the liver's blood vessels.

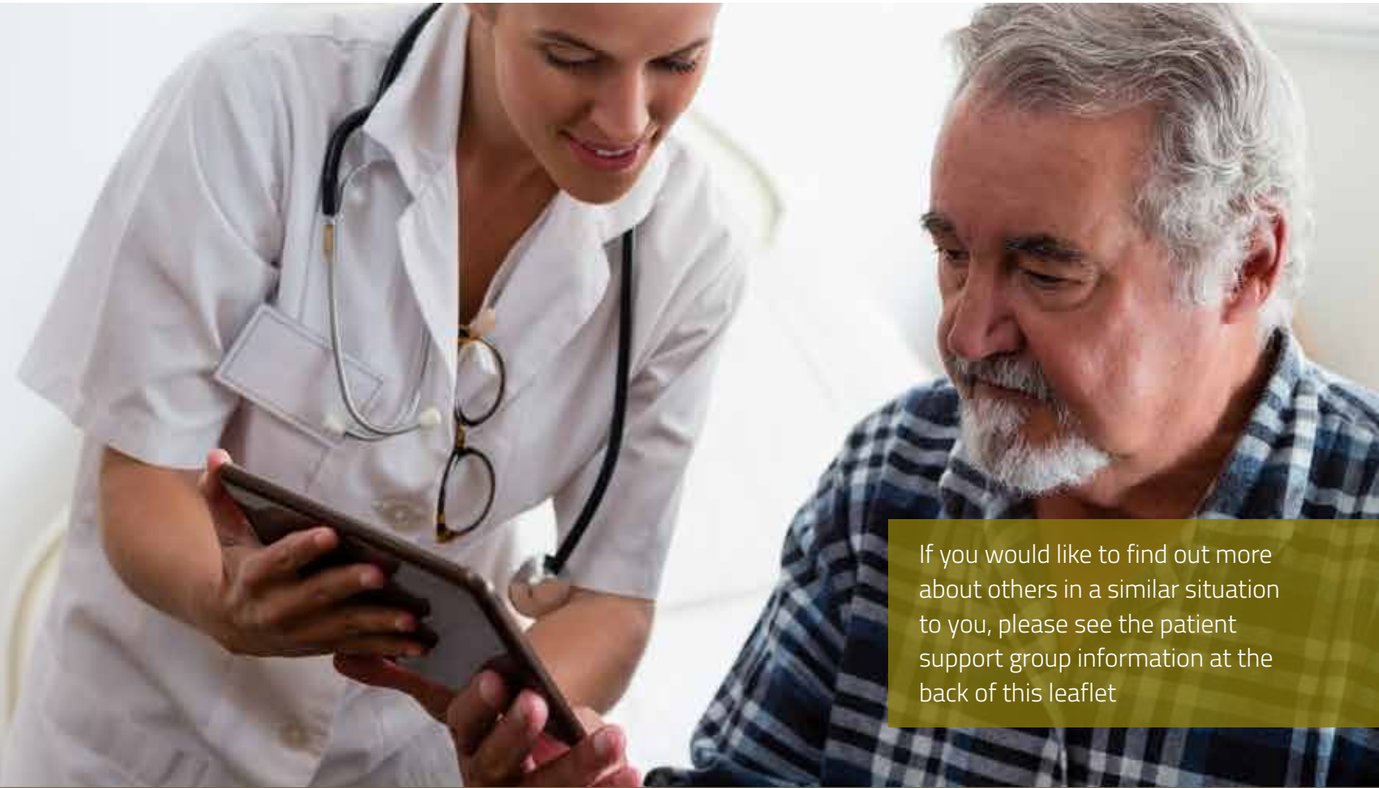
This can cause blood to be redirected to smaller veins, causing them to increase in size and become varices (twisted and swollen).

Because they are strained by the extra load, these smaller veins can burst, causing serious bleeding.

Approximately 50% of people suffering from cirrhosis will experience varices at some point, and approximately 30% will have a variceal bleed.[1]

Knowing that your health is at risk can be worrying. Being well informed and following advice from professionals should help you stay as healthy as possible.

It's also reassuring to know that you are not alone. There are lots of other people out there in a similar situation to you.

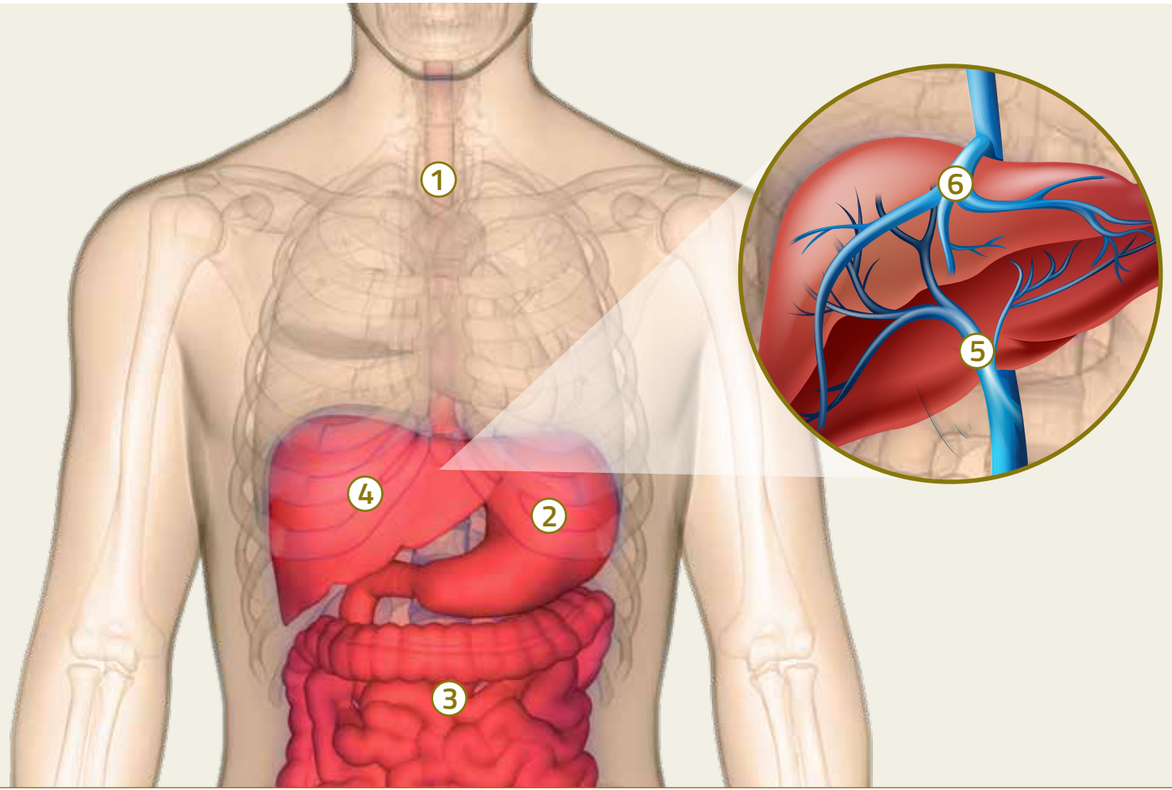


If you would like to find out more about others in a similar situation to you, please see the patient support group information at the back of this leaflet

Tell me more about varices and variceal bleeding

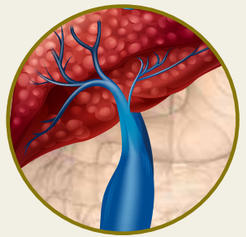
One of the most important jobs performed by the liver is to act as a filter that cleans blood before it gets passed on to the heart. For example, when we eat and drink, small veins along the **oesophagus [1]**, the **stomach [2]** and the **intestines [3]**, all carry blood containing nutrients and toxins to the **liver [4]** for it to cleaned.

The veins carrying this blood are like small streams that connect together to form a large river. The largest vein leading directly to the liver is called the **portal vein [5]**.



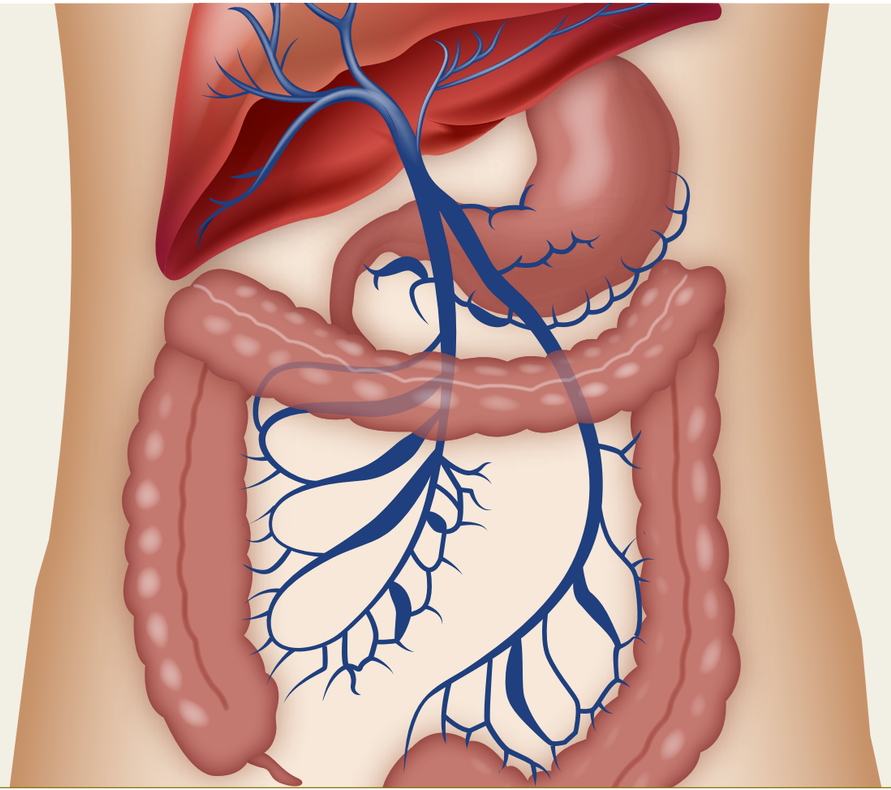
In a healthy liver, the blood from the portal vein flows smoothly through the liver, where it is cleansed. This purified blood then passes out the other side of the liver (through the **hepatic vein [6]**) on its way to the heart. However, when a liver is damaged and scarred by cirrhosis, the blood flow is slowed down.

This means that the blood cannot pass through the liver as quickly as it is arriving. Blood then begins to back-up and create pressure in the portal vein (this is known as portal hypertension).



Usually, the portal vein can stretch and expand like a balloon, to hold the increased quantity of blood. However, if the pressure becomes too great, the blood then starts to back-up even further and overload the small veins that lead to the portal vein. These small, swollen veins are known as varices.

Unfortunately, varices don't normally cause any symptoms that you can see or feel, so it is hard to know when it is happening.



However, if the pressure continues to build over time and the lining of the veins becomes too thin, they can tear and bleed. This is known as variceal bleeding.

When this happens, it can be very dangerous or even life-threatening.

When bleeding does occur, there are some very definite symptoms you can notice. If you experience any of the following, you should consider it a medical emergency and seek help immediately.

What are the main symptoms of variceal bleeding?

- Black or bloody stools
- Unusually rapid heart rate
- Vomiting blood
- Pale skin
- Shock (rapid, shallow breathing; cold, clammy skin; weak pulse; dizziness, fainting or weakness)
- Stomach pain

How is variceal bleeding treated?

There are a number of treatments for variceal bleeding.[2] Your doctor will decide on the right one for you. If you would like to know more about these options, make sure you talk to your doctor.

Banding
Through endoscopy (where a camera travels down the oesophagus, into the stomach or even the intestine) and sedation, small rubber bands are attached around the damaged veins. Banding is often used as a preventative treatment too.[2]

Clotting (or 'sclerotherapy')
Through endoscopy and sedation, a special blood-clotting medicine is injected directly into the veins as an alternative to banding. Clotting is often used as a preventative treatment too.[2]

TIPS (Transjugular Intrahepatic PortoSystemic Shunt/Stent)
A tubular device is inserted into the liver to create an artificial connection (like a tunnel) between the vein carrying blood into the liver and the vein carrying blood out. This allows some blood to simply bypass the filtering process, which in turn relieves some of the pressure on the damaged liver.[2]

Removing veins (devascularisation)
Where other treatments are not possible, the bleeding veins can sometimes be removed altogether.[2]

How is variceal bleeding prevented?

Given the likelihood of bleeding occurring once varices have developed, there is a strong focus on preventing bleeds from happening in the first place. There are a number of things your doctor might do to help if they think you are at risk.[3,4]

Screening
An endoscopy whilst under sedation.

Blood-pressure reduction medicine
You may be prescribed a medicine called a 'beta-blocker' (a very common treatment for high blood pressure) or similar in order to reduce the pressure and swelling in the veins.[4]

Banding
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Clotting (or 'sclerotherapy')
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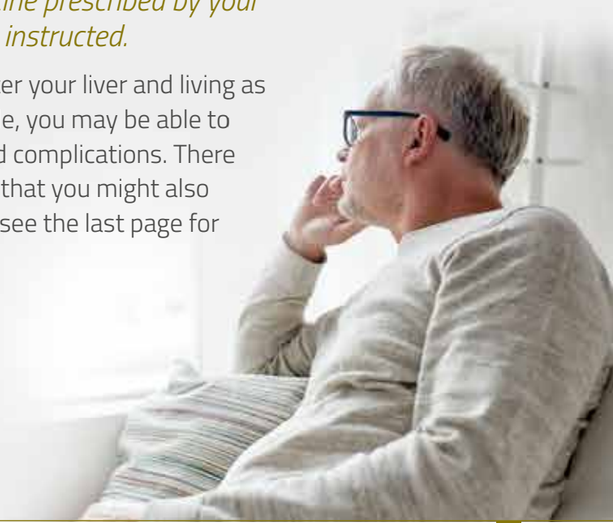
Can I get any more support?

Variceal bleeding is a life-threatening condition, so make sure you take all the advice and medicine prescribed by your doctor exactly as instructed.

Also, by looking after your liver and living as healthily as possible, you may be able to reduce liver-related complications. There are other modules that you might also find useful (please see the last page for more information).



Glossary

Ascites: A build-up of fluid in the abdomen.

Cirrhosis: Where healthy liver cells become damaged and are replaced with scar tissue.

Hepatic encephalopathy: A change in the brain that can occur in patients with advanced liver disease due to high levels of toxins in the brain.

Hepatitis B and C: Two conditions that cause inflammation of the liver due to viral infection.

Hepatocellular carcinoma: A type of liver cancer that is common in people with cirrhosis.

Hepatic vein: The blood vessel that transports cleansed blood out of the liver to the heart.

Intestines: The passage that runs from the end of the stomach to the anus.

Liver: The largest organ inside the human body. Among other things, it is responsible for removing toxins from our blood, producing certain molecules like hormones and storing and releasing energy from food.

Non-alcohol related fatty liver disease (NAFLD): NAFLD is when you get a build-up of fat in your liver.

Oesophagus: The passage that transports food and liquids between the mouth and the stomach.

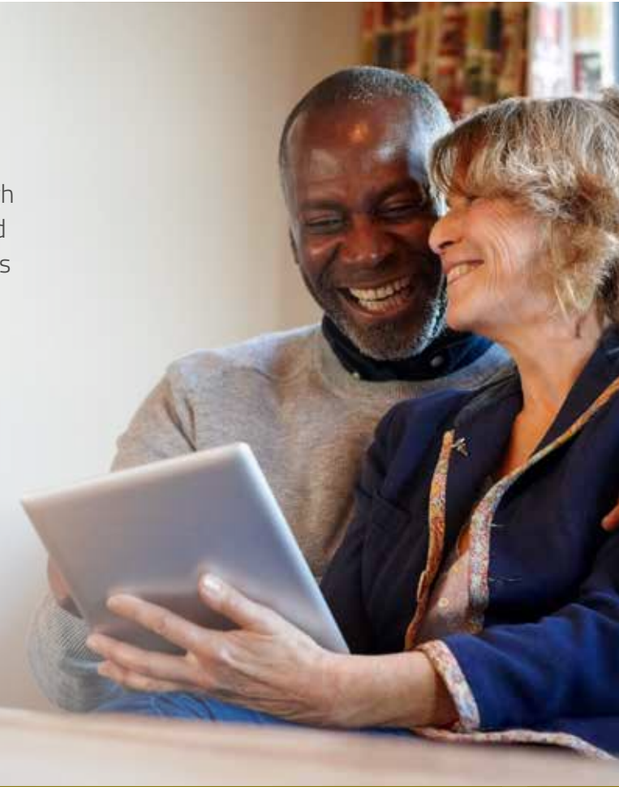
Portal vein: A large vein carrying blood from the gut to the liver for cleaning.

Stomach: The organ in which most of the food and liquid we consume is digested.

Toxins: Harmful chemicals that enter the body through our normal daily activities such as eating, drinking and breathing. A healthy liver helps to remove these toxins from the body.

Variceal bleed: When small veins (known as varices) burst, causing serious bleeding.

Varices: Small veins that have become larger, twisted and swollen due to blood being redirected to them.



Reporting of side effects due to prescribed medicines

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in the package leaflet. You can also report side effects directly via the Yellow Card Scheme at www.mhra.gov.uk/yellowcard.

By reporting side effects, you can help provide more information on the safety of this medicine.

References:

1. D'Amico G, *et al.* Competing risks and prognostic stages of cirrhosis: a 25-year inception cohort study of 494 patients. Aliment Pharmacol Ther 2014; 39(10): 1180-1193.

2. WebMD. Digestive Problems and Bleeding Varices. Available at: https://www.webmd.com/digestive-disorders/bleeding-varices#1 [Accessed January 2019]

3. European Association for the Study of the Liver. EASL Clinical Practice Guidelines for the management of patients with decompensated cirrhosis. J Hepatol 2018; 69(2): 406-460.

4. Healthline. Bleeding Esophageal Varices. Available at: https://www.healthline.com/health/bleeding-esophageal-varices#outlook [Accessed January 2019].

Disclaimer:

The images are being used for illustrative purposes only. Any persons depicted are models.

Suggested reading:

https://www.healthline.com/health/bleeding-esophageal-varices

https://www.medicinenet.com/bleeding_varices/article.htm

https://www.webmd.com/a-to-z-guides/tc/variceal-bleeding-as-a-complication-of-cirrhosis-topic-overview

Support groups:

European Liver Patients' Association: https://www.elpa.eu

ELPA European Liver Patients' Association

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