Oxford University Hospitals
NHS Foundation Trust

Pulmonary embolism (PE)

Information for Patients

Pulmonary embolism (PE) is the abnormal presence of one of more blood clots in the blood vessels of the lungs, which can affect flow of blood through the lungs.

Typical symptoms of PE include:

- sharp chest pain
- shortness of breath, cough (which may be dry, or may produce blood)
- collapse

Sometimes PE can cause no symptoms and be found incidentally during tests for other problems.

Causes of PE

Most PEs originate from deep vein thromboses (DVTs), which are blood clots that form in the large blood vessels of the legs.

If a piece of clot breaks off, it can travel through the veins to the heart, and from the heart to the lungs, where it becomes lodged in a blood vessel and blocks blood flow through that part of the lung.

PEs and DVTs may occur following a period of immobility or illness, or following immobilisation of a leg in a cast, or after major surgery.

They are more likely to occur in pregnant women, people with cancer and some long-term illnesses, and people taking medications such as the oral contraceptive pill and hormone replacement therapy (HRT).

Often the cause of PE is not identified, even after extensive tests.

Diagnosis

If a doctor suspects you have a PE on the basis of symptoms and risk factors, they will arrange tests to confirm this diagnosis or rule it out.

If your risk of having PE is low, sometimes PE can be ruled out simply by using a blood test called a D dimer – if the D dimer blood test is negative, then PE is very unlikely to be the cause of your symptoms.

It is worth noting that D dimer can be positive for reasons other than PE, such as inflammation or infection, so a positive D dimer does not mean you definitely have a PE – rather, that PE cannot be ruled out, and further tests are needed.

If you are thought to be at high risk of having a PE, or the D dimer blood test is positive, then we may offer you a scan of your lungs to give a definitive diagnosis. If you are not unwell, this scan may not need to be performed immediately. We may start you on treatment for PE, and then discharge you home to return for a scan – generally the following day. If the scan does not show a PE, then this treatment can be stopped.

Treatment

If you are unwell with PE, you will be admitted to hospital. However, the majority of patients with PE can be safely discharged and treated as an outpatient.

Patients with PEs are usually prescribed anticoagulants (blood thinning medications) which help to prevent clots expanding in size or new clots forming. Over time existing clots will be broken down naturally by the body.

The most commonly used anticoagulant drug is the tablet apixaban, but the tablet warfarin or injections of dalteparin (heparin) may be more appropriate for you.

Anticoagulants are safe and effective, but as a side effect can increase the risk of minor or serious bleeding, particularly after injuries.

If you are taking anticoagulants you should avoid anti-inflammatory medications like ibuprofen, naproxen and diclofenac, and advise your doctor or pharmacist before taking any new medications.

If this is your first PE, you may only need to take anticoagulant medication for a few months.

If, however, you have recurrent PEs, or are deemed to be at high risk of further PEs, it may be required lifelong.

Follow-up

All patients with PE will require some follow-up, but the timing and nature of follow-up will vary according to your individual circumstances.

If we discharge you from the Emergency Department before a definitive diagnosis of PE has been made, we will ask you to return for a review and a scan within 24 hours.

We may also ask you to return for urgent review if you:

- require additional urgent investigations; or
- cannot take the medication apixaban.

Apixaban is the most commonly used medication to treat PE, so if you cannot take this medication we will need to discuss the use of another medication such as warfarin or heparin.

We will ask you to make a follow-up appointment with your GP, who may arrange further outpatient investigations, and continue any anticoagulant medication prescriptions.

All patients diagnosed with PE will be seen by a specialist in thrombosis clinic, typically at ten to 14 weeks after diagnosis, to discuss the need for long-term anticoagulation.

We will contact you with an appointment date.

Your follow-up plan is as follows:

Questions or concerns

If you have a diagnosis of PE, or **may** have a PE pending a scan to confirm this, and have **any of the following symptoms**, come to A&E immediately, calling 999 if necessary:

- increasing shortness of breath
- severe or worsening chest pain
- a collapse or loss of consciousness.

If you are taking anticoagulant medications and have any of the following symptoms, come to A&E immediately, calling 999 if necessary:

- a head injury
- heavy bleeding, for example from a nosebleed lasting over 15 minutes, or from an injury
- blood in your vomit or dark red or black 'tarry' stools.

If you have other queries please speak to your GP, or the Anticoagulant Clinic if you are under our care.

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

Author: Dr William Gibbs
November 2021
Review: November 2024
Oxford University Hospitals NHS Foundation Trust
www.ouh.nhs.uk/information

Making a difference across our hospitals

charity@ouh.nhs.uk | 01865 743 444 | hospitalcharity.co.uk

OXFORD HOSPITALS CHARITY (REGISTERED CHARITY NUMBER 1175809)

Leaflet reference number: OMI 80705