DR MARK PORTER

The danger posed by blood clots goes far beyond Covid-19

• NEW

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Blood clots are in the spotlight this week after reports that they are "clogging up" the lungs of patients in intensive care with Covid-19. Not that you have to be infected with the virus to be at risk. Despite the NHS being a world leader in clot prevention, venous thromboembolism — deep vein thrombosis (normally in the leg) and pulmonary embolus (clots in the lungs) — remains the main cause of preventable deaths in our hospitals.

Three factors classically contribute to the abnormal clotting that results in a deep vein thrombosis (DVT): overly "sticky" blood, injury to the lining of blood vessels and sluggish flow. Most DVTs form in the deep veins of the leg, and the most common symptom is a painful and occasionally swollen calf that is all too easy to attribute to a pulled muscle. The main risk from delayed diagnosis is that part of the clot will break off and travel to the lungs, causing a pulmonary embolus (PE). And the risk is considerable: about a third of patients with DVTs in their thighs develop a PE and one in three of them will die from it.

Sick people in hospital — whether they have Covid or not — are likely to have all three predisposing factors, particularly if they are immobile in bed after major surgery or on an intensive treatment unit (ITU) after an accident or serious infection. And to compound

matters, patients with Covid also develop massive inflammation in the lungs, which leads to further clotting in the small blood vessels in the part of their lungs where gases are exchanged. Little wonder that ventilating such people has proved a significant challenge — you can boost breathing artificially with a machine, but it's not going to make a huge difference if large sections of the lungs have no blood supply. Air and blood need to meet to keep people alive.

This double whammy of blood clots travelling round the circulation and wedging in the lungs and smaller vessels becoming inflamed and blocking off happens in other illnesses, including bacterial pneumonia and sepsis. And it is very difficult to treat. Conventional clot-prevention measures — eg anticoagulants such as heparin — are used routinely on ITUs, and on many other hospital patients, but while they can help with DVT and PE, we still don't know for sure what impact they have on the microvascular clotting seen in Covid.

In a typical (pre-Covid) year 5,000 people die in England alone from blood clots, most of them while in hospital or within a few months of being discharged. Since 2007, when NHS hospitals started a much more aggressive clot-prevention programme, the number of deaths (in hospital and up to 90 days after going home) has fallen by about 20 per cent, but preventative measures can't stop all clots and early diagnosis remains vital. Prompt treatment with anticoagulants dramatically reduces the risk of DVTs breaking off and ending up in the lungs.

Diagnosing a DVT in someone exhibiting all the classic signs isn't that hard and, once suspected, can be clinched using blood tests and/or scans, but most DVTs are not that obvious. As many as 80 per cent are "silent" until a bit breaks off and becomes lodged in the lungs. Even then diagnosis can be missed. The textbook symptoms of a PE are sudden-onset chest pain made worse by breathing deeply, breathlessness and coughing up blood, but smaller PEs often present as non-specific unexplained shortness of breath.

Anyone can develop a DVT/PE at any time, but those most at risk include the over-60s; people taking certain medications, particularly oral hormone replacement therapy (HRT) and the combined contraceptive Pill; pregnant women; and those who are obese and/or have underlying diabetes (type 1 and 2) or cancer.

Surgery, particularly intra-abdominal operations and orthopaedic procedures such as hip or knee replacement, is a significant risk factor in patients being treated in hospital, as is any serious infection

or illness, And there is a small group (about 5 per cent of the population) who have an inherited tendency to “stickier blood”, often evident from a history or family history of DVT/PE.

As well as reporting any suspicious symptoms, you can take steps to protect yourself if you are going into hospital (see below), particularly for a planned procedure such as an operation.

For more details on the diagnosis, management and prevention of DVT visit thrombosisuk.org

DVT: the facts

• Although DVT is often linked to long-haul flights (remember those?), air travel accounts only for a tiny proportion. Being treated in hospital is the most common risk factor. And while it is more common in older people, any age group can be affected. Every year at least 2,500 people under the age of 40 in England and Wales develop a DVT and as many as 250 of them will die from it.

• The risk varies depending on the individual and why they are in hospital, but as many as one in three surgical patients will develop a DVT unless specific preventive measures are taken.

• If you are admitted to hospital, ask the doctor or nurse looking after you what steps will be taken to reduce the risk of DVT. All patients should be individually assessed so that preventive measures such as anticoagulants can be tailored accordingly.

• If you have had a DVT/PE, then you are at much higher risk of another, so flag this up. A strong family history may suggest an inherited tendency.

• Seek advice if you are on the combined contraceptive Pill (the mini Pill is fine) or HRT. Both should generally be stopped a month before major surgery.

• Spend as little time as possible in your hospital bed, get up and walk about if you can and stay well hydrated.

If you have a health problem, email drmarkporter@thetimes.co.uk

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