Patient information from BMJ

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Disseminated intravascular coagulation

If you've got disseminated intravascular coagulation (DIC), tiny blood clots start to form in your veins and arteries. This can cause several problems, including blocked small blood vessels and bleeding that can be hard to control.

DIC is caused by another condition or event (such as an accident), which can often be treated. You can use our information to talk to your doctor about the best treatments for you.

What is disseminated intravascular coagulation (DIC)?

Your blood contains millions of tiny discs called **platelets**. If your skin gets cut or grazed, these platelets help to form a scab over the wound. This helps to control the bleeding and protect the wound while it heals.

If you've got DIC, something goes wrong with the way your blood clots. Small blood clots start to form in your blood vessels. This can cause serious problems, such as:

- Blockages in small blood vessels. This can lead to a condition called **gangrene**, where some body tissue doesn't get enough blood supply, and the tissue dies. This can sometimes lead to the loss of part or all of a limb
- **Bleeding** that's hard to control. If too many of your platelets are used up in the small blood clots in your blood vessels, there might not be enough left to stop you from bleeding when you have an injury.

What causes DIC?

DIC doesn't happen by itself. It's caused by another medical condition or by an injury. Things that can trigger DIC can include:

- Sepsis, where the body over-reacts to an infection
- Severe infection, including COVID 19
- A major physical injury
- Serious burns
- Some types of cancer
- Some complications of pregnancy and childbirth

- Severe organ failure, such as severe pancreatitis, and acute liver failure
- Some blood circulation problems
- Snake bites, and
- Severe immune-system reactions such as a bad reaction to a blood transfusion or to an organ transplant.

DIC can either be **acute** (this means that it comes on fairly quickly) or **chronic** (this means that it happens gradually over time).

Acute DIC is more likely to be caused by something that happens in a short space of time, such as an injury, infection, or blood transfusion.

Chronic DIC is more common with medical problems that come on over time, such as cancers and long-term blood conditions.

What are the symptoms?

DIC is always caused by something else (an **underlying** problem). Signs and symptoms that you have a problem that might be causing DIC include:

- Only producing small amounts of urine. This is called **oliguria**, and it can be a sign of kidney disease
- Low blood pressure (called **hypotension**)
- A fast heartbeat (called **tachycardia**)
- A problem called **purpura fulminans**, where the skin bleeds and dies quickly
- Blue fingers and toes (called **cyanosis**)
- Gangrene - symptoms of gangrene include areas of red, purple, or black skin; swelling; and loss of feeling in affected areas
- Confusion and delirium, or even coma, and
- An unusual amount of bleeding or bruising.

How is DIC diagnosed?

There is no single test that can tell for certain if you've got DIC, but some tests can help with diagnosis.

For example, a **blood test** can show if you've got fewer platelets in your blood than you should. And **scans** might be able to show up small clots in your blood.

Your doctor will also ask you about your symptoms, and will look at your medical history. This might help to identify an underlying condition that is causing DIC.

What treatments are available?

The best way to treat DIC is to treat the underlying condition that has caused it. For many people, treating the cause of the DIC in this way solves the problem fairly quickly.

For example, if you've got an infection, treating the infection should also cure the DIC. But some people also need treatments that deal directly with the DIC.

For example, your doctor might suggest a course of treatment with drugs that stop your blood from clotting too much. This can help to clear the small blood clots from your blood vessels.

And some people need what's called **replacement therapy**. This means having a **transfusion** to replace some of your blood with blood products that contain platelets that are working properly.

Replacement therapy is usually only used in people with the most severe DIC: for example, those who have severe bleeding or who are at risk of major complications from bleeding.

What to expect in the future

If you have treatment for DIC your doctor will want to monitor you for some time afterwards. This would probably happen anyway if you need ongoing treatment for what caused the DIC.

Treating the cause of DIC, and the clotting problems that it can lead to, can lead to improvements and even a cure for many people.

But often the outlook is less positive. Many people with DIC remain very ill, and many people die. For example, people who have DIC caused by a serious injury or burns are much less likely to survive than those without DIC.

DIC from any cause can lead to serious complications, especially if the underlying cause is hard to treat.

For example, bleeding problems can sometimes be hard to treat, and these can lead to organ failure, including heart problems and internal bleeding. And gangrene can cause some people to lose fingers, toes, or even limbs.

It's too simple to say that DIC can be fatal by itself. But DIC is usually caused by something very serious. When people die with DIC, it's usually because of the underlying condition that caused the DIC.

Everyone is different, and some people do improve. You should feel free to ask your doctor any questions you have about the outlook for you.

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