



InfoSheet

MANAGING THROMBOCYTOPENIA ASSOCIATED WITH MYELOMA AND ITS TREATMENT

Multiple myeloma and novel therapies used to treat this blood cancer may affect the normal production of blood cells or cause an extensive range of side effects in myeloma patients.

This InfoSheet will give you more information about thrombocytopenia and the way it affects your body. We will learn how to recognize its signs and symptoms, and to better manage this side effect.

Definition and causes of thrombocytopenia

Thrombocytopenia is a decrease in platelets (also called thrombocytes) preventing your blood from clotting normally after an injury. A low platelet count can lead to bruising or prolonged and excessive bleeding, while high levels may increase the risk of clotting (thrombosis).

The normal number of platelets (in adults) is between about 150 million and 400 million per millilitre. A person is then considered to be suffering from thrombocytopenia if they have less than 150 million platelets per millilitre of blood.

How can this happen?

In myeloma, abnormal plasma cells (known as myeloma cells) multiply and spread in an uncontrolled manner within the bone marrow, eventually crowding out the normal blood cells and preventing the bone marrow from working properly. This means the bone marrow produces fewer blood cells, including platelets.

Not only myeloma itself may be responsible for this imbalance, but medications used to treat it can also interfere with the production of red blood cells (RBCs), white blood cells (WBCs) and platelets, which, in this case, increase the risk of infections and bleeding.

Anti myeloma treatments causing thrombocytopenia include immunomodulatory agents like lenalidomide (e.g., Revlimid), pomalidomide (e.g., Pomalyst), proteasome inhibitors such as bortezomib (e.g., Velcade) and carfilzomib (e.g., Kyprolis), and high-dose chemotherapy such as cyclophosphamide and melphalan.

It is important to note that some myeloma treatments may also increase the risk of developing a blood clot, such as a pulmonary embolism or deep vein thrombosis.

Mild thrombocytopenia does not always cause symptoms. Some of the more common signs and symptoms of moderate to severe thrombocytopenia are:

- Easy or excessive bruising
- Prolonged bleeding from cuts that does not stop with pressure
- Spontaneous bleeding from your gums or nose
- Excessively heavy menstrual bleeding or spotting
- Blood in your urine or stool, which may appear dark red or black and tarry
- Freckle-like red or purple spots under the skin due to leaking blood vessels (petechiae)

How is thrombocytopenia treated?

Treatment depends on the severity and underlying cause. Thrombocytopenia, as a complication of the myeloma, normally begins to improve with anti-myeloma treatment. As treatment begins to bring myeloma under control, the bone marrow is often able to recover and will start producing normal amounts of platelets and other blood cells. If thrombocytopenia is a side effect of anti-myeloma treatment, platelet levels will usually improve during the non-treatment days of your treatment cycle. However, in some cases, particularly if thrombocytopenia is severe, it may be necessary to temporarily reduce your dose or postpone treatment until your platelet levels begin to return to normal.

If thrombocytopenia is graded as severe or you have signs of bleeding, you may require a platelet transfusion. A platelet transfusion is when you are given platelets from someone else (a donor). It is administered into the vein for a period of 15 to 30 minutes. Your platelet levels will increase immediately but may only last for a few days. Another transfusion could be necessary.

Tips for self-management

There are many things you can try to reduce your risk of bruising or bleeding. Here are a few suggestions:

- Have your blood tests done so that your doctor can monitor your blood counts.
- Your doctor may make changes in the choice, dosing, or scheduling of your medications or other treatments.
- Exercise safely: avoid activities that can result in bruising or bleeding e.g. contact sports, body piercing or tattooing.
- Take care when brushing your teeth to avoid bleeding of the gums e.g. use a soft toothbrush and take care when flossing.
- Take extra care not to cause cuts or wounds to the skin.
- Avoid constipation. If you need treatment for constipation, talk to your pharmacist or another member of your healthcare team.
- Limit your alcohol intake. Alcoholic beverages may lead to a deficiency of folate (needed for platelet production), and increase the chance of bleeding.
- Drink 6 to 8 glasses of water per day and follow a balanced diet.
- Avoid tonic water which usually contains quinine. Quinine is a cause of drug-induced thrombocytopenia.

Precautionary measures

- Advise your healthcare team if you experience bruises, small red spots under the skin, or a rash with no known cause, fever or signs of infection, headaches, joint pain, fatigue or weakness.
- Blood in stools (poo), urine or vomit can be a sign of spontaneous or internal bleeding and requires immediate medical attention.
- Nonsteroidal anti-inflammatory drugs (NSAIDs) including aspirin, ibuprofen or naproxen are painkillers which have an anti-platelet effect which may increase the risk of bleeding. Do not take these drugs. Ask your doctor or pharmacist which painkiller is right for you.
- Your doctor may prescribe aspirin or anticoagulants for other reasons, which are valid despite thrombocytopenia. Do not stop these treatments without discussing it with your doctor. However, advise your healthcare team and pharmacist if your platelet count is low.
- It is extremely important that you speak to your hematologist and pharmacist before taking any kind of supplement or alternative treatment that they have not prescribed, including herbal, traditional or natural medicines and remedies, and vitamins or wellbeing supplements. They have the potential to interact with your prescribed treatment or, in this case, contribute to poor platelet function or bleeding risk.

To learn more about thrombocytopenia and thrombocytes, consult Myeloma Canada's "**Multiple Myeloma Patient Handbook**" and "**Understanding Your Blood and Blood Tests**" InfoGuides in the Resource library at www.myeloma.ca.

Your healthcare team, pharmacist, and nutritionist are also there to support you. It's important to share your symptoms with them.

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