

DT-PACE

This Infosheet explains what DT-PACE is, how it is used in the treatment of myeloma and its possible side-effects.

What is DT-PACE?

DT-PACE is a treatment combination used to treat myeloma patients who have received several previous treatments or who are refractory to treatment.

DT-PACE is a combination of six drugs:

■ **Dexamethasone**

A steroid given on its own or in combination with other drugs

■ **Thalidomide**

An immunomodulatory drug (IMiD) which works by modifying the immune system

■ **Cisplatin**

A chemotherapy drug

■ **Adriamycin® (doxorubicin)**

A chemotherapy drug

■ **Cyclophosphamide**

A chemotherapy drug

■ **Etoposide**

A chemotherapy drug

Patients who have relapsed after a number of different treatments may still respond to DT-PACE as it contains drugs the patients may not have received before. The drugs also have different mechanisms of action (different targets within the myeloma cells) which means they attack the myeloma cells in a number of different ways.

How is DT-PACE given?

DT-PACE is given continuously over a 4-day cycle through a central (HICKMAN®) line. The central line is a temporary line that is inserted into a large vein in the chest (below the collar bone) and will remain in place for the duration of your treatment, to allow intravenous drugs to be administered and blood samples to be taken. As the chemotherapy drugs are administered continuously, you will need to stay in hospital for the duration of your treatment and for a 28 day recovery period after your treatment has ended.

Adriamycin is given on its own in an intravenous (IV, into a vein) fluid bag and cisplatin, cyclophosphamide and etoposide are mixed together in an IV fluid bag. There will

also be a bag of fluid to keep you hydrated and to help your kidneys function properly. Dexamethasone and thalidomide are given orally (by tablet) - dexamethasone is given over a 4-day cycle and thalidomide is given continuously for 28 days.

Typically patients require two or more cycles of treatment, each followed by a recovery period. A bone marrow biopsy, as well as blood and urine tests, will be used to measure your paraprotein and light chain levels to monitor your response to treatment.

What are the possible side-effects of DT-PACE?

Side-effects vary according to the number of cycles of treatment and also vary from patient to patient. It is important that you report any side-effects to your doctor or nurse as soon as possible to reduce any impact they may have.

Following treatment with DT-PACE your immune system can be weakened and therefore less able to fight infection. Some patients stay in hospital until their blood counts return to a safe level (usually around 28 days) and their risk of infection is reduced. During this time you may feel

quite unwell and be kept in protective isolation in hospital to help you avoid infection. You may be able to return home earlier if your doctor thinks you are well enough.

In hospital your temperature, blood pressure and pulse will be regularly checked and monitored for signs of infection. You can also be given intravenous, preventative antibiotics to further reduce your risk of infection.

Chemotherapy side-effects:

Low blood cell count: Both chemotherapy and the myeloma itself can affect your normal blood cell count:

- Low red blood cell count (anaemia) - can cause fatigue, weakness and breathlessness
- Low white blood cell count (leukopenia) - increases your risk of infection
- Low platelet count (thrombocytopenia) - increases the risk of bleeding and bruising

Mucositis: Inflammation and ulceration of the lining in the mouth and gastrointestinal tract which can cause pain and discomfort while eating and speaking and can affect appetite.

Nausea and vomiting: Can occur for up to 24 hours following treatment. All patients receiving chemotherapy are given anti-emetic (anti-sickness) drugs, however if you continue to feel nauseous speak to your doctor or nurse as they will be able to give you an alternative anti-sickness drug that might be more effective for you. If nausea and sickness prevent you from drinking, you may be given fluids intravenously.

Hair loss: This can begin 2 weeks following chemotherapy. Hair normally begins to grow back a month after your last cycle of treatment.

Thalidomide side-effects:

Birth defects: It is important that anyone taking thalidomide is aware of the possible birth defects thalidomide causes. Both men and women who are taking thalidomide can pass these side-effects to their unborn baby. When taking thalidomide you will be part of a pregnancy prevention programme. Your doctor or nurse will provide you with written information about the risks about the risks of conceiving, or fathering, a child while taking thalidomide. You will be asked to sign a

consent form after reading the information. Both women and men taking thalidomide must start using contraception 4 weeks before their treatment begins. Women of childbearing age will have pregnancy tests 4 weeks before starting treatment, every 4 weeks during treatment and 4 weeks after treatment has ended. If you think you or your partner has become pregnant any time throughout thalidomide treatment you must tell your doctor or nurse immediately.

Drowsiness and fatigue: You may be advised to take thalidomide in the evening to reduce feeling drowsy throughout the day.

Constipation: A high fibre diet and a good fluid intake can help prevent constipation, your doctor may also prescribe laxatives.

Peripheral neuropathy: This is damage to the peripheral nerves. You may feel numbness and tingling in your hands and feet. Speak to your doctor or nurse if you notice any new or different symptoms to reduce the risk of permanent damage.

Skin rashes: You may develop an itchy rash on your torso which can spread to your arms and legs around 2 weeks into treatment. Your dose may be adjusted until

the rash has cleared.

Blood clots: Most commonly these occur in the legs - known as deep vein thrombosis (DVT). Occasionally part of a blood clot can dislodge and move into the lung causing a pulmonary embolism (PE). On the days you take thalidomide, you will also be given an injection of a drug to reduce the risk of clots forming (an anticoagulant), such as low-dose heparin.

Symptoms of blood clots include-
DVT in one of your legs:

- Cramps
- Redness
- Swelling
- Warmth

PE:

- Chest pain
- Fainting
- Shortness of breath
- Coughing up blood

Blood clots can be dangerous so you must inform your doctor as soon as possible if you think you may have one.

A PE is regarded as a medical emergency. If you experience symptoms of a PE, you must call 999 immediately.

Dexamethasone side-effects:

Stomach irritation: Steroids can cause pain and indigestion. Your doctor can prescribe drugs to help prevent these symptoms.

Mood changes and insomnia: Your sleep and mood can be affected. It is important to discuss this with your doctor, as changing the time of day steroids are taken may help.

Muscle weakness: You may be affected by muscle weakness, particularly towards the end of your treatment.

Fluid retention: Steroids can cause swelling in the ankles (oedema).

Increased blood sugar: Your blood sugar levels can temporarily increase and will be monitored at check-ups. If you are diabetic your doctor will advise you of how often to monitor your blood sugar.

Increased risk of infection: Steroids can cause a weakened immune system, increasing the risk of infection. You should be vigilant for signs of infection and report them immediately to your doctor or nurse.

Increased appetite: Drugs prescribed to help with stomach irritation cause your appetite to

increase and result in weight gain.

Fertility, pregnancy and breastfeeding

It is important to discuss the effect treatment with DT-PACE can have on your fertility with your doctor before beginning treatment.

Fertility

Chemotherapy can damage the testes or ovaries, which can affect the chances of conceiving a child. Infertility is usually temporary, but in some cases can be permanent. Patients can also experience premature menopause following chemotherapy.

If you're thinking of starting a family or having more children in the immediate future then it is important to speak to your doctor.

Pregnancy

Chemotherapy and thalidomide are harmful to unborn children. There is a risk that the eggs or sperm produced may be abnormal for up to a year following treatment. If you know you (or your partner) are pregnant before starting treatment with DT-PACE or become pregnant during

treatment you must tell your doctor immediately.

Breastfeeding

It is very important that women do not breastfeed while receiving chemotherapy treatment. Chemotherapy drugs can become concentrated in breast milk which can be passed onto feeding babies.

Summary

DT-PACE is a treatment option for patients who have relapsed a number of times or are refractory to standard treatment. There are a number of side-effects associated with DT-PACE. Most are manageable and resolve after treatment ends, however, some do require urgent medical attention. If you experience any side-effects during your treatment, report them to your doctor or nurse as soon as possible.

About this Infosheet

The information in this Infosheet is not meant to replace the advice of your medical team. They are the people to ask if you have questions about your individual situation. All Myeloma UK publications are extensively reviewed by patients and healthcare professionals prior to publication.

For a list of references used to develop our resources, visit www.myeloma.org.uk/references

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