NHS
The Christie
NHS Foundation Trust

CODOX-M

Cyclophosphamide, Oncovin® (vincristine), doxorubicin and methotrexate

The possible benefits of treatment vary; for some people this chemotherapy may reduce the risk of the cancer coming back, for others it may control the cancer and its symptoms. Your doctor will explain to you whether you will receive chemotherapy or another type of treatment, or a combination of both. Your doctor or nurse can answer any questions you have about your treatment. It is also useful to refer to the booklet 'Chemotherapy, a guide' which gives general information on systemic anti-cancer treatment and side effects.

Your treatment

Your doctor or nurse clinician has prescribed for you a treatment called CODOX-M, which is a combination of drugs.
You will have your treatment in hospital and stay in until your blood counts recover. This means you will be in hospital for about 3 to 4 months, but this may vary from person to person. This cycle will be repeated when your blood levels recover, for 2 to 3 cycles. You will also have 2 infusions of rituximab (antibody treatment) per cycle during this time (please see separate information leaflet). Some patients may need an additional combination of chemotherapy treatment (IVAC) in between each cycle of CODOX-M. Your treatment includes the following:

Day 1 - Vincristine given as an infusion (drip) into a line (cannula or central line) over 5 to 10 minutes. **Doxorubicin** given via a syringe into a line over 5 to 10 minutes.
Cyclophosphamide given via a syringe into a line over 5 to10 minutes.
Cytarabine given via a needle into the base of the spine (lumbar puncture), known as the intrathecal route or IT over a few minutes - the timing of this treatment is not crucial and may vary slightly by a few days.
Days 2, 3, 4 and 5 - Cyclophosphamide as on Day 1
Day 3 - Cytarabine as on Day 1
Day 8 - Vincristine as on Day 1
Day 10 - Methotrexate is given as an infusion (drip) for 15 minutes then a 3 hour infusion. You will also have fluids running alongside the chemotherapy.
Day 15 - Methotrexate given via a needle into the base of the spine (IT).
You will also have a drug called folinic acid given intravenously 24 hours from the beginning of the methotrexate - then every 6 hours until your methotrexate levels are satisfactory. Folinic acid helps to reduce the side effects of methotrexate and is also called folinic acid rescue. You may have this in tablet form after the first 2 doses.

This treatment can have serious or possibly life-threatening side effects. It is very important that you report side effects straight away. Don't delay, if you feel unwell, please ring The Christie Hotline on **0161 446 3658**. The lines are open 24 hours a day.

Medicines to be avoided with methotrexate

Do not take any medicines that contain: Aspirin, ibuprofen or co-trimoxazole. Please be aware, some cold remedies and painkillers contain aspirin and ibuprofen. Check with your pharmacist and tell them you are having treatment with methotrexate. Please ask your Christie doctor for advice about any other medication you are taking, including non-prescribed medicines, complementary therapies and herbal medicines.

Possible side effects

Chemotherapy can cause many different side effects. Some are more likely to occur than others. Everyone is different and not everyone gets all the side effects. Most side effects are usually temporary, but in some rare cases they can be life-threatening. It is important to tell your hospital doctor or nurse about any side effects so they can be monitored and, where possible, treated.

Increased risk of serious infection

You are vulnerable to infection while you are having chemotherapy. Minor infections can become life-threatening in a matter of hours if left untreated. Symptoms of infection include fever, shivering, sweats, sore throat, diarrhoea, discomfort when you pass urine, cough or breathlessness. We recommend that you use a digital thermometer so you can check your temperature. You can buy one from your local chemist.
If your temperature is 37.5ºC or above, or below 36ºC or you have symptoms of an infection, contact The Christie Hotline straight away.

• Bruising or bleeding

This treatment can reduce the production of platelets which help the blood clot. Tell your doctor if you have any unexplained bruising or bleeding, such as nosebleeds, bloodspots or rashes on the skin, and bleeding gums. You may need a platelet transfusion.

• Anaemia (low number of red blood cells)

While having this treatment you may become anaemic. This may make you feel tired and breathless. Let your doctor or nurse know if these symptoms are a problem. You may need a blood transfusion.

You will have a routine blood test every day while you are in hospital to monitor the effects of the chemotherapy, but please tell your nurse if you experience any of the symptoms listed above.

• Nausea and vomiting (sickness)

The severity of this varies from person to person. Anti-sickness medication will be given along with your chemotherapy to prevent this. If you continue to feel or be sick, tell your nurse because your anti-sickness medication may need to be changed or increased.

• Urinary symptoms

Doxorubicin is red in colour and may discolour your urine red or pink for the first few times after having this drug. This is normal and nothing to worry about. Cyclophosphamide can cause irritation of the bladder. It is important to drink plenty of fluids to prevent any irritation. If you notice any blood in your urine, please tell your nurse or doctor.

• Hair loss

Hair loss is usually total. The hair falls out gradually 10 to 14 days following your first course of treatment. The time scale varies from person to person. Please remember that this is a temporary side effect and your hair will grow back when your treatment is completed. Very rarely, hair loss can be permanent.
The cancer information centre offers a coping with hair loss service to all patients where support, information and advice will be given. Drop in, contact **0161 446 8439** or email **the-christie.informationcentre@nhs.net**. Information about the wig service can also be found here and

vouchers for wigs can also be obtained for eligible patients. The wig room provides a drop in service, please see The Christie leaflet 'The wig fitting service' for further information.

The Maggie's Centre can support you with hair loss by helping you consider the practicalities as well as the emotional impact. Maggie's provides expert care and support to everyone with cancer and those who love them. You can call into Maggie's Monday to Friday, 9am to 5pm to speak with their professional team, their address is Maggie's Manchester at The Robert Parfett Building, 15 Kinnaird Road, Manchester, M20 4QL or you can call them on **0161 641 4848** or email **manchester@maggies.org**.

Uncommon side effects (less than 1 in 10)

• Lethargy

Some chemotherapy may make you feel tired and lacking in energy. It can be frustrating when you feel unable to cope with routine tasks. If you do feel tired, take rest when necessary. Gentle exercise such as walking can be beneficial.

• Diarrhoea

If this becomes a problem during or after your treatment, anti-diarrhoea tablets can be prescribed by your doctor. Ask the staff for a copy of 'Eating - help yourself' which has some useful ideas about diet when you are having treatment.

• Constipation

Vincristine can sometimes cause constipation and abdominal cramps. If you do not have your bowels open as regularly as normal or have abdominal cramps, let your doctor or nurse know. Try to drink plenty of fluids and eat foods high in fibre. Tell your doctor or nurse know. Try to drink plenty of fluids and eat foods high in fibre. Tell your doctor who may prescribe a suitable laxative. Ask the staff for a copy of 'Eating - help yourself' which has useful ideas about diet when you are having treatment.

• Tingling and numbness in the fingers or toes

This is common but is usually only mild and temporary. It can sometimes last for some time or become permanent. Please report these symptoms to your doctor.

• Sore mouth

Your mouth may become sore or dry, or you may notice small mouth ulcers during this treatment. Drinking plenty of fluids and cleaning your teeth regularly and gently with a soft toothbrush can help to reduce the risk of this happening. We can prescribe a mouthwash for you to use during treatment. You can dilute this with water if your mouth is sore. Ask your doctor or nurse for further advice. There is also general mouth care information in the chemotherapy booklet. If you continue to have a sore mouth, please contact The Christie Hotline on **0161 446 3658**.

Rare side effects (less than 1 in 100)

• Extravasation

Extravasation is when chemotherapy leaks outside the vein. If you develop redness, soreness or pain at the injection site **at any time** please let us know straightaway.

• Skin changes

Sometimes as a result of the chemotherapy, your skin may appear darker in colour or lightly tanned, especially around the joints. This is known as hyperpigmentation. Some chemotherapy can make your skin more sensitive to the sun than usual. Sit in the shade, avoid too much sun and use a sunblock cream. Depending on your skin tone, people may also develop noticeably lighter patches on their skin. Your nails may also discolour or become brittle during treatment. The skin and nails will usually return to normal when treatment is finished.

• Gritty eyes/blurred vision

Your eyes may feel 'gritty' and/or sore. If this occurs please tell your nurse or doctor who will prescribe soothing eye drops.

• Liver function

Some chemotherapy can sometimes cause changes in the way your liver works. Your medical team will monitor this closely by taking blood samples from time to time to measure your liver function. If your liver is affected, we may need to alter the dose of chemotherapy.

• Kidney function

Methotrexate in high doses can affect your kidney function. Fluids through a drip can prevent this from happening. Your kidney function will be closely monitored during and after your treatment by blood tests and 24 hour urine collections.

• Heart function

Doxorubicin may cause changes in the muscle of the heart, which can affect how the heart works. The effect on the heart depends on the dose given. It is unusual for the heart to be affected if you receive standard doses. Tests to see how well your heart is working will sometimes be carried our before the drug is given.

Serious and potentially life threatening side effects

In a small proportion of patients chemotherapy can result in very severe side effects which may rarely result in death. The team caring for you will discuss the risk of these side effects with you.

Sex, contraception and fertility

Protecting your partner and contraception: We recommend that you or your partner use a barrier form of contraception during sexual intercourse while you are having the course of chemotherapy. Chemotherapy is dangerous to unborn babies and this will also protect you and your partner from any chemotherapy drugs that may be present in semen and in the vagina. If you suspect that you may be pregnant please tell your doctor immediately.

Fertility: This chemotherapy may affect your ability to have children. Your doctor or nurse should have discussed this with you. If not, please ask them before you start treatment.

Late side effects

Some side effects may become evident only after a number of years. In reaching any decision with you about treatment, the potential benefit you receive from treatment will be weighed against the risks of serious long term side effects to the heart, lungs, kidneys and bone marrow. Higher doses of doxorubicin may cause changes in the muscle of the heart. This can affect how the heart works. The effect on the heart depends on the dose given. It is very unusual for the heart to be affected if you have standard doses. Tests to see how well your heart is working may sometimes be carried out before the chemotherapy is given.

With some drugs there is also a small but definite risk of developing another cancer. If any of these problems specifically applies to you, the doctor will discuss these with you and note this on your consent form.

Flu vaccinations

Is it alright for me to have a flu jab during the time I'm having chemotherapy? It's safe to have a flu jab, but depending on the sort of chemotherapy you have had, it may not give quite as much protection against infection as usual. Some patients may need 2 vaccinations. However, if you're thinking of having any other vaccinations, do check with your Christie doctor first, because some vaccines should be avoided.

COVID-19 vaccinations

We advise that all patients receive a COVID-19 vaccination when this is offered. Your doctor will discuss with you the best time to have this.

Contacts

If you have any general questions or concerns about your treatment, please contact the haematology team:

Haematology nurse specialists - **0161 918 7962**
Haematology and transplant day unit - **0161 446 3924**
General enquiries - **0161 446 3000**

For urgent advice ring The Christie Hotline - **0161 446 3658** (24 hours a day, 7 days a week)

Your consultant is: ....

Your hospital number is: ....

Your key worker is: ....

If you need information in a different format, such as easy read, large print, BSL, braille, email, SMS text or other communication support, please tell your ward or clinic nurse.

The Christie is committed to producing high quality, evidence based information for patients. Our patient information adheres to the principles and quality statements of the Information Standard. If you would like to have details about the sources used please contact **the-christie.patient.information@nhs.net**

For information and advice visit the cancer information centres at Withington, Oldham, Salford or Macclesfield. Opening times can vary, please check before making a special journey.

Contact The Christie Hotline for
urgent support and specialist advice

The Christie Hotline: 0161 446 3658

Open 24 hours a day, 7 days a week

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The Christie Patient Information Service
Tel: 0161 446 3000 www.christie.nhs.uk