

Gemcitabine for biliary tract cancers

If your doctor recommended gemcitabine to treat your cancer, here is some important information about this medication and some aspects related to it.

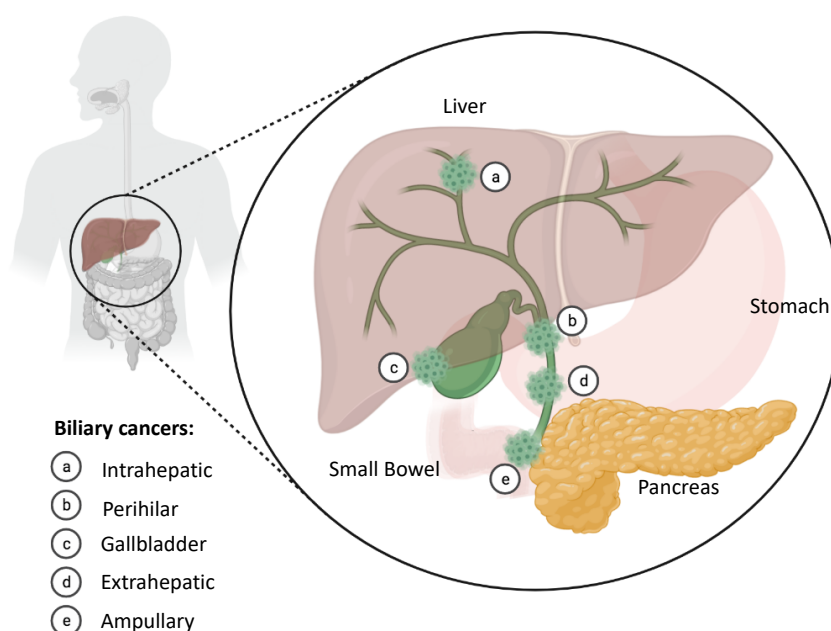
Biliary tract cancer

Cancers of the biliary tract develop from cells (called cholangiocytes) that normally make up the lining of the biliary system (depicted in green in the picture below). Biliary ducts are small tubes that carry the bile, which is used to digest food, from the liver and gallbladder into the small bowel.

Biliary tract cancers are cholangiocarcinoma, gallbladder cancer and ampullary cancer:

- **Cholangiocarcinoma** - which is also known as bile duct cancer. This cancer is categorised in three types, depending on where within the bile ducts it develops:
 - intrahepatic cholangiocarcinoma - when the cancer develops in the ducts inside the liver
 - perihilar cholangiocarcinoma - when it develops in the ducts just outside the liver
 - distal/extrahepatic cholangiocarcinoma - when it develops in the ducts further away from the liver
- **Gallbladder cancer** - arises from the gallbladder lining
- **Ampullary cancer** - arises from the join between the bile ducts and the small bowel

You have been given this leaflet because you have been diagnosed with a biliary tract cancer. Your oncologist can discuss with you which biliary tract cancer you have and how extended it is.



What is gemcitabine?

Gemcitabine is a chemotherapy drug which kills tumour cells by interfering with the process of cell replication. However, because it can also damage normal cells, it can cause some side effects.

How is gemcitabine administered?

You will receive gemcitabine in hospital, in the chemotherapy unit. Gemcitabine is injected intravenously (into a vein) through a *cannula*, a short thin tube, which will be put into a vein in your arm or hand by a nurse. The cannula will be removed after you receive the gemcitabine.

Your doctor will decide the exact dosage of gemcitabine you will receive based on many factors including your height, weight, age, general health and underlying conditions.

There is not a form of gemcitabine which can be taken orally (by mouth).

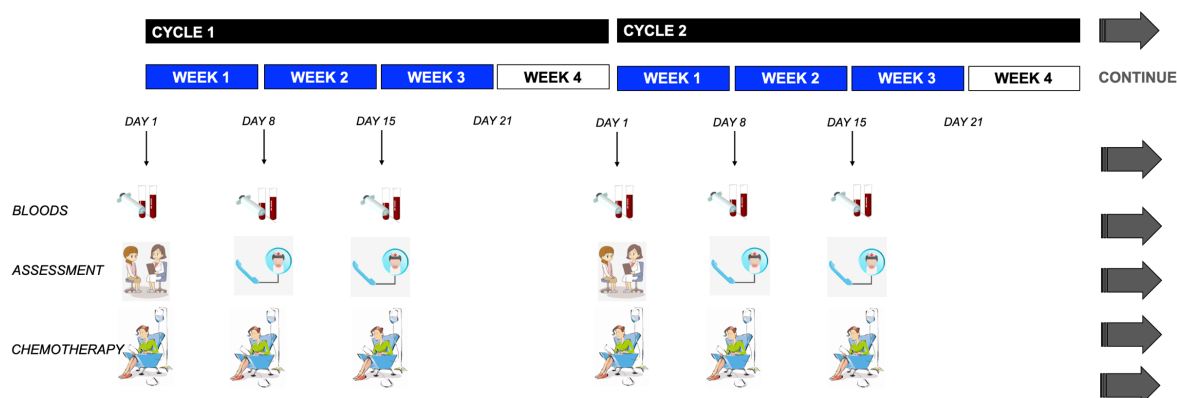
Schedule of gemcitabine treatment

You will receive gemcitabine in cycles of treatment. The standard schedule of gemcitabine treatment follows a four-week cycle, involving one day of chemotherapy a week, for three weeks (DAY 1, DAY 8 and DAY 15), followed by one week of rest.

Before each session of chemotherapy, you will have a blood test and your oncological team will check whether you are fit enough for the chemotherapy session. It is important that you report any symptom(s) and problem(s) since your last session so that the dose/schedule can be adjusted and personalised specifically for you.

On DAY 1 of the first week of each cycle of chemotherapy, you will come to hospital to see the team for assessment, including a blood test, before proceeding to chemotherapy administration. On DAY 8 of the second week and on DAY 15 of the third week you will need to repeat the bloods, but the team can assess you by phone before you come to hospital for your chemotherapy. The doctor may ask you to have the bloods taken at your GP practice the day before your chemotherapy appointment. You will not need to stay in hospital overnight.

Gemcitabine cycle: 3 weeks on, 1 week off



Duration of gemcitabine treatment

The doctor will discuss the duration of your treatment with you. Generally, each gemcitabine cycle will last for one month (4 weeks). If you are tolerating the treatment well, you will receive chemotherapy for at least 3 months before your doctor will advise a repeat scan to understand if the chemotherapy is working. If the first 3 months scan shows your cancer is stable or shrinking, your doctor may advise continuing the chemotherapy for another 3 months. After the first 6 months of treatment your doctor will discuss with you whether you should take a break from chemotherapy or should continue.

What are the side effects of the gemcitabine treatment?

There are known side effects with this treatment, but you may not experience any of them. This does not mean that the treatment is not working; there is no relationship between the presence or severity of side effects and the efficacy of the medication.

You may get some of the side effects, but you are unlikely to get them all. Remember that side effects are often predictable in terms of their onset, duration and severity; they are almost always reversible and should completely go away after treatment.

As with many other chemotherapy drugs, gemcitabine kills cancer cells because of its ability to stop cell division and proliferation. Unfortunately, chemotherapy drugs are not able to recognise the difference between the cancerous cells and normal cells. So, chemotherapy will also kill normal cells that are rapidly dividing, like blood cells, cells in the mouth, stomach, bowel and elsewhere, which is what causes some of the different side effects. Once treatment ends, those normal cells will grow back and be healthy.

There are many medications available that can be taken during chemotherapy to control and minimise the impact of any side effects you may have.

Some of the most common side effects

Hematotoxicity: side effects on your blood cells including:

- ***Low number of white blood cells and risk of infection***

Chemotherapy often reduces the number of white blood cells, which help you fight against infections. If your white blood cell count is too low (this is called *neutropenia*) you may be at risk of infections. At this time, it is important to be careful to avoid situations that could increase this risk of infections, such as being in crowded places or in touch with people with colds.

As the number of your white cells is most likely to be at its lowest between day 7 and day 10 of each of the cycles of your chemotherapy, during these days it is especially important to avoid risk of infection.

Reduction in white cells is one of the important blood checks your doctor will make before you receive your next dose of chemotherapy to ensure that the number of white blood cells is enough to protect you from infection while you receive chemotherapy.

The number of white cells will usually return to normal before your next treatment. Sometimes it may happen they are too low to allow you receive the scheduled treatment and your doctor will delay your treatment for a short time until the cell count returns to normal.

It is important you are aware of the signs and symptoms of infection, and you must contact the helpline at your institution if you develop any of the following:

- Your body temperature rises above 38°C (100.4°F), despite using paracetamol
- You suddenly feel shivery or unwell
- You develop a sore throat, a cough, diarrhoea, increased frequency of urination

- **Low number of red blood cells**

Chemotherapy can reduce the number of red blood cells. The most important role of red blood cells is carrying oxygen to every part of your body. If the number of red blood cells is too low (this is called *anaemia*) you can feel tired and breathless. If your *anaemia* is severe, you will need a blood transfusion.

- **Low number of platelets and risk of bruising or bleeding**

Chemotherapy can reduce the number of platelets. Platelets are useful to help the blood clotting. If your number of platelets is too low (this is called *thrombocytopenia*) you cannot receive chemotherapy and your doctor will delay your treatment for a short time until the platelet count improves.

If you have any bruising or bleeding, such as nosebleeds, bleeding gums, tiny red or purple spots on the skin, please inform your doctor.

Flu-like symptoms: you may experience these during the chemotherapy treatment or shortly after:

- Feeling hot, cold or shivery
- Fever
- Headache
- Muscle pain
- Fatigue

Nausea: generally mild, sometimes accompanied by vomiting. It is usually well controlled by anti-sickness drugs. You can experience it from a few hours to a few days after treatment.

Fatigue: a very common side effect, which may increase during the treatment course.

Poor appetite: don't worry if you don't eat much for a day or two.

Build-up of fluid: You may put on weight and your face or your ankles or legs may swell. It can help to put your legs up on a cushion. The swelling will get better after your treatment ends.

Some less common side effects

Constipation: eating high-fibre foods (vegetables, fruit, wholemeal bread) and drinking at least 2 litres of water can help you. You may need laxatives if it lasts for longer than two/three days.

Diarrhoea: you need to get in touch with your team if you have 4 or more loose poos (stools) in 24 hours. Your doctor will give you anti-diarrhoea medications. Remember to drink plenty of water to replace fluids lost. If you have diarrhoea you should eat low-fibre food and avoid raw fruits, fruit juice, cereals and vegetables. It can help to also avoid alcohol, caffeine, dairy products and high-fat foods.

Mouth sores and ulcers: you should always brush your teeth after eating to avoid germs growing. To prevent or to help treat mouth sores use a soft toothbrush and rinse three times a day with 1/2 to 1 teaspoon of baking soda mixed in water (or regular mouthwash). It's better to avoid acidic foods such as oranges, lemons and grapefruits. Tell your doctor or nurse if you have ulcers, as they can help to prevent or to treat mouth sores.

Skin changes: your skin may be drier or develop a rash.

Drowsiness: chemotherapy may cause you to feel very sleepy (drowsy) and tired. If you feel very sleepy, do not drive or operate machinery.

Headache: if this happens, you may take painkillers like paracetamol.

Difficulty in sleeping: you can take sleeping tablets if you need them.

Blood clotting: contact the helpline if your legs are swollen, red and sore or if you develop breathlessness.

Hair loss: your hair may get thinner, but it is unlikely that you will lose your hair.

Medication to help control side effects

Make sure to let your doctor know of any side effects; there are useful medications to control the symptoms.

Should I continue to take all my usual medications?

Yes, you have to keep taking all your usual medications. Please report to your oncology team all the medications you are taking, so that they can advise.

Can I have the flu vaccination?

Yes, it is advised you have the flu vaccination before you start your chemotherapy. If you have already started your chemotherapy, please ask your doctor who can advise on the best timing to have the vaccination.

Tips during treatment

- Drink plenty of fluids (at least 2 litres per day) protect your kidneys.
- Maintain good nutrition. Eating small frequent meals may help to reduce nausea. You should avoid fatty or fried foods. You can take anti-sickness drugs if you need.
- Use an electric razor when shaving and a soft toothbrush to minimize bleeding.
- Avoid sun exposure. Wear SPF 15 (or higher) sunblock and protective clothing.
- You may experience drowsiness or dizziness; avoid driving or engaging in tasks that require alertness until your response to gemcitabine is known.
- Get plenty of rest.
- Keep at home the medications you may need to help control the symptoms.
- Before starting chemotherapy, tell your doctor about any medication you are taking. Sometimes side effects may be related to your medicines and not to chemotherapy.
- If your symptoms are severe or do not improve after 24 hours, do not hesitate to contact the hospital.
- Pay attention to symptoms of a blood clot: pain, redness, swelling of an arm or a leg, breathlessness or chest pain. If you have any of these symptoms contact your doctor.
- Do not receive any kind of vaccination without your doctor's approval while taking gemcitabine.
- If you are a woman of childbearing age:
 - Inform your doctor if you are pregnant or may be pregnant prior to starting this treatment.
 - Avoid getting pregnant during chemotherapy
 - Do not breast feed during chemotherapy

When to contact the hospital?

If your symptoms are severe or do not improve after 24 hours, do not hesitate to contact the hospital.

Hospital emergency contact:

Where can I get more information?

If you want to get more information in this field, you can visit **ESMO** website for *Biliary tract cancer: Guide for Patients* and **AMMF** *The Cholangiocarcinoma Charity* website.

You can find the related link below:

<https://www.esmo.org/for-patients/patient-guides/biliary-tract-cancer>

<https://ammf.org.uk/patient-guide/>