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Gastric and gastroesophageal metastatic irinotecan two weekly

ID: 1705 v.4

Endorsed

Essential Medicine List

Check for clinical trials in this patient group. Link to Australian Clinical Trials website

The anticancer drug(s) in this protocol <u>may</u> have been included in the ADDIKD guideline. Dose recommendations in kidney dysfunction have yet to be updated to align with the ADDIKD guideline. Recommendations will be updated once the individual protocol has been evaluated by the reference committee. For further information refer to the ADDIKD guideline. To assist with calculations, use the <u>eviQ Estimated Glomerular Filtration Rate (eGFR) calculator</u>.

International Consensus Guideline for Anticancer Drug Dosing in Kidney Dysfunction (ADDIKD)

Click here



2022

Related pages:

- · Gastric and gastroesophageal metastatic DOCEtaxel
- Gastric and gastroesophageal metastatic PACLitaxel weekly

Treatment schedule - Overview

Cycle 1 and further cycles

Drug	Dose	Route	Day
Irinotecan	150 mg/m ² *	IV infusion	1

^{*}Irinotecan 250 mg/m² every 3 weeks may be considered as an alternative regimen.

Frequency: 14 days

Cycles: Continuous until disease progression or unacceptable toxicity

Drug status: Irinotecan is on the PBS general schedule

Cost: ~ \$50 per cycle

Treatment schedule - Detail

The supportive therapies (e.g. antiemetics, premedications, etc.), infusion times, diluents, volumes and routes of administration, if included, are listed as defaults. They may vary between institutions and can be substituted to reflect individual institutional policy.

Antiemetics if included in the treatment schedule are based upon recommendations from national and international guidelines. These are defaults only and may be substituted to reflect individual institutional policy. Select here for recommended doses of alternative antiemetics.

Cycle 1 and further cycles

Day 1		
Dexamethasone	8 mg (PO)	60 minutes before chemotherapy
Palonosetron	0.25 mg (IV bolus)	30 minutes before chemotherapy
Irinotecan	150 mg/m ² (IV infusion)	in 250 mL to 500 mL glucose 5% over 90 minutes *

Day 2 and 3		
Dexamethasone	8 mg (PO)	ONCE a day (or in divided doses) with or after food. Note: dexamethasone doses on day 2 and 3 may not be required and may be reduced or omitted at the clinicians discretion. **

^{*} Irinotecan 250 mg/m² every 3 weeks may be considered as an alternative regimen.

Frequency: 14 days

Cycles: Continuous until disease progression or unacceptable toxicity

Indications and patient population

 Advanced or metastatic adenocarcinoma of the stomach or gastro-oesophageal junction in patients who have progressed during or within 6 months after treatment with a platinum-fluoropyrimidine combination.

• ECOG performance status 0 to 2.

Clinical information

Venous access required	IV cannula (IVC) or central venous access device (CVAD) is required to administer this treatment. Read more about central venous access device line selection
	Tread more about contrain verious accesses acrice mile concentral
Premedication	Consider atropine 0.3 to 0.6 mg IV or SC prior to irinotecan administration as required to help prevent irinotecan induced cholinergic side effects (atropine should not be used in patients with glaucoma).
Emetogenicity MODERATE	Suggested default antiemetics have been added to the treatment schedule, and may be substituted to reflect institutional policy.
	For patients with a prior episode of chemotherapy induced nausea or vomiting, a NK1 receptor antagonist is available on the PBS in combination with a 5HT ₃ antagonist and steroid.
	Ensure that patients also have sufficient antiemetics for breakthrough emesis:
	Metoclopramide 10 mg three times a day when necessary (maximum of 30 mg/24 hours, up to 5 days) OR
	Prochlorperazine 10 mg PO every 6 hours when necessary.
	Read more about preventing anti-cancer therapy induced nausea and vomiting
Diarrhoea (early onset) and cholinergic syndrome	Early onset diarrhoea and other cholinergic symptoms such as rhinitis, hypersalivation, miosis, lacrimation, diaphoresis, flushing, and abdominal cramping can occur during or within 24 hours of administration of irinotecan.
	Symptoms may be treated with atropine 0.3 to 0.6 mg IV or SC as needed, repeated up to a maximum dose of 1.2 mg (unless clinically contraindicated). Patients 65 years of age and above should be closely monitored due to a greater risk of early diarrhoea observed in this population.
	Read more about treatment induced diarrhoea
Diarrhoea (late onset)	Irinotecan induced diarrhoea can be life threatening and requires immediate management.
	Ensure patients have sufficient antidiarrhoeal (e.g. loperamide) and appropriate instructions should this adverse event occur.
	Note: If prescribing loperamide, the recommended maximum daily dose of 16 mg of loperamide can be exceeded.
	Read more about treatment induced diarrhoea

^{**} Link to ID 7 Prevention of chemotherapy induced nausea and vomiting

Gilbert's syndrome	Patients with Gilbert's syndrome should have their dose of irinotecan reduced. There is no clear dosing strategy; however based on the area under the concentration-time curve of SN-38, Innocenti et al (2006) recommend a 20% dose reduction of irinotecan. Read more about Gilbert's syndrome
Blood tests	FBC, EUC and LFTs at baseline and prior to each treatment.
Hepatitis B screening and prophylaxis	Routine screening for HBsAg and anti-HBc is NOT usually recommended for patients receiving this treatment. Read more about hepatitis B screening and prophylaxis in cancer patients requiring cytotoxic and/or immunosuppressive therapy
Vaccinations	Live vaccines are contraindicated in cancer patients receiving immunosuppressive therapy and/or who have poorly controlled malignant disease. Refer to the recommended schedule of vaccination for immunocompromised patients, as outlined in the Australian Immunisation Handbook. Read more about COVID-19 vaccines and cancer.
Fertility, pregnancy and lactation	Cancer treatment can have harmful effects on fertility and this should be discussed with all patients of reproductive potential prior to commencing treatment. There is a risk of foetal harm in pregnant women. A pregnancy test should be considered prior to initiating treatment in females of reproductive potential if sexually active. It is important that all patients of reproductive potential use effective contraception whilst on therapy and after treatment finishes. Effective contraception methods and adequate contraception timeframe should be discussed with all patients of reproductive potential. Possibility of infant risk should be discussed with breastfeeding patients. Read more about the effect of cancer treatment on fertility

Dose modifications

Evidence for dose modifications is limited, and the recommendations made on eviQ are intended as a guide only. They are generally conservative with an emphasis on safety. Any dose modification should be based on clinical judgement, and the individual patient's situation including but not limited to treatment intent (curative vs palliative), the anti-cancer regimen (single versus combination therapy versus chemotherapy versus immunotherapy), biology of the cancer (site, size, mutations, metastases), other treatment related side effects, additional co-morbidities, performance status and patient preferences. Suggested dose modifications are based on clinical trial findings, product information, published guidelines and reference committee consensus. The dose reduction applies to each individual dose and not to the total number of days or duration of treatment cycle unless stated otherwise. Non-haematological gradings are based on Common Terminology Criteria for Adverse Events (CTCAE) unless otherwise specified. Renal and hepatic dose modifications have been standardised where possible. For more information see dosing considerations & disclaimer.

The dose recommendations in kidney dysfunction (i.e.renal impairment) displayed may not reflect those in the ADDIKD guideline and have been included for historical reference only. Recommendations will be updated once the individual protocol has been evaluated by the reference committee, with this version of the protocol then being archived. Clinicians are expected to refer to the ADDIKD guideline prior to prescribing in kidney dysfunction.

International Consensus Guideline for Anticancer Drug Dosing in Kidney Dysfunction (ADDIKD).

Note: all dose reductions are calculated as a percentage of the starting dose.

Haematological toxicity		
ANC x 10 ⁹ /L (pre-treatment blood test)		
1.0 to less than 1.5	Refer to local institutional guidelines; it is the view of the expert clinicians that treatment should continue if patient is clinically well.	
0.5 to less than 1.0	Delay treatment until recovery	
less than 0.5	Delay treatment until recovery and reduce the dose for subsequent cycles as follows: 1st occurrence: Reduce irinotecan by 25%	

Haematological toxicity		
	2 nd occurrence: Reduce irinotecan by 50% 3 rd occurrence: Cease irinotecan	
Febrile neutropenia	Delay treatment until recovery and reduce irinotecan by 25% for subsequent cycles	
Platelets x 10 ⁹ /L (pre-treatment blood test)		
75 to less than 100	The general recommendation is to delay, however if the patient is clinically well it may be appropriate to continue treatment; refer to treating team and/or local institutional guidelines.	
50 to less than 75	Delay treatment until recovery	
less than 50	Delay treatment until recovery and reduce irinotecan by 25% for subsequent cycles	

Renal impairment	
Creatinine clearance (mL/min)	
30 to 50	Reduce irinotecan by 25%
less than 30	Reduce irinotecan by 50%

Hepatic impairment		
Hepatic dysfunction		
Minimal	Reduce irinotecan by 25%	
Mild	Reduce irinotecan by 50%	
Moderate/Severe	Omit irinotecan	
Gilbert's syndrome	Reduce irinotecan by 20%	

<u>Diarrhoea</u>	
Grade 2	Delay treatment until toxicity has resolved to Grade 1 or less and reduce the dose for subsequent cycles as follows: 1st occurrence: No dose reduction 2nd occurrence: Reduce irinotecan by 25% 3rd occurrence: Reduce irinotecan by 50% 4th occurrence: Cease irinotecan
Grade 3 or Grade 4	Delay treatment until toxicity has resolved to Grade 1 or less and reduce the dose for subsequent cycles as follows: 1st occurrence: Reduce irinotecan by 50% 2nd occurrence: Cease irinotecan

Interactions

Drug interactions in eviQ protocols are under review and being updated to align with current literature. Further site-wide updates and changes will occur in due course. References & Disclaimer

The drug interactions shown below are not an exhaustive list. For a more comprehensive list and for detailed information on specific drug interactions and clinical management, please refer to the specific drug product information and the following key resources:

- MIMS interactions tab (includes link to a CYP-450 table) (login required)
- Australian Medicines Handbook (AMH) interactions tab (login required)
- Micromedex Drug Interactions (login required)
- Cancer Drug Interactions
- Cytochrome P450 Drug Interactions

Irinotecan		
	Interaction	Clinical management
CYP3A4 and P-gp inhibitors (e.g. amiodarone, aprepitant, azole-antifungals, ritonavir, lapatinib, nilotinib, sorafenib, macrolides, ciclosporin, grapefruit juice etc.)	Increased toxicity of irinotecan possible due to reduced clearance	Avoid combination or monitor for irinotecan toxicity (Ketoconazole contraindicated and should be discontinued at least 1 week prior to irinotecan)
CYP3A4 and P-gp inducers (e.g. carbamazepine, phenytoin, phenobarbitone, rifampicin, St John's wort, dexamethasone etc.)	Reduced efficacy of irinotecan possible due to increased clearance	Avoid combination or monitor for decreased clinical response to irinotecan (St John's wort contraindicated; substituting non-enzyme inducing antiepileptics (e.g. clonazepam, diazepam, lorazepam) at least 1 week prior to irinotecan should be considered)
Atazanavir	Increased toxicity of irinotecan possible due to reduced clearance caused by inhibition of both CYP3A4 and UGT1A1 by atazanavir	Avoid combination or monitor for irinotecan toxicity
Smoking	Reduced efficacy of irinotecan possible due to increased clearance caused by induction of both CYP3A4 and UGT1A1 by smoking	Monitor for decreased clinical response to irinotecan in patients who continue to smoke; no specific dosing recommendations are available

General		
	Interaction	Clinical management
Warfarin	Anti-cancer drugs may alter the anticoagulant effect of warfarin.	Monitor INR regularly and adjust warfarin dosage as appropriate; consider alternative anticoagulant.
Direct oral anticoagulants (DOACs) e.g. apixaban, rivaroxaban, dabigatran	Interaction with both CYP3A4 and P-gp inhibitors /inducers. DOAC and anti-cancer drug levels may both be altered, possibly leading to loss of efficacy or toxicity (i.e. increased bleeding).	Apixaban: avoid concurrent use with strong CYP3A4 and P-gp inhibitors. If treating VTE, avoid use with strong CYP3A4 and P-gp inducers. Rivaroxaban: avoid concurrent use with strong CYP3A4 and P-gp inhibitors. Dabigatran: avoid combination with strong P-gp inducers and inhibitors. If concurrent use is unavoidable, monitor closely for efficacy/toxicity of both drugs.
Digoxin	Anti-cancer drugs can damage the lining of the intestine; affecting the absorption of digoxin.	Monitor digoxin serum levels; adjust digoxin dosage as appropriate.
Antiepileptics	Both altered antiepileptic and anti- cancer drug levels may occur, possibly leading to loss of efficacy or toxicity.	Where concurrent use of an enzyme-inducing antiepileptic cannot be avoided, monitor antiepileptic serum levels for toxicity, as well as seizure frequency for efficacy; adjust dosage as appropriate. Also monitor closely for efficacy of the anti-cancer therapy.
Antiplatelet agents and NSAIDs	Increased risk of bleeding due to treatment related thrombocytopenia.	Avoid or minimise combination. If combination deemed essential, (e.g. low dose aspirin for ischaemic heart disease) monitor for signs of bleeding.
Serotonergic drugs, including selective serotonin reuptake inhibitors (SSRIs e.g. paroxetine) and serotonin noradrenaline reuptake inhibitors (SNRIs e.g. venlafaxine)	Increased risk of serotonin syndrome with concurrent use of 5-HT3 receptor antagonists (e.g. palonosetron, ondansetron, granisetron, tropisetron, dolasetron, etc.)	Avoid combination. If combination is clinically warranted, monitor for signs and symptoms of serotonin syndrome (e.g. confusion, agitation, tachycardia, hyperreflexia). For more information link to TGA Medicines Safety Update
Vaccines	Diminished response to vaccines and increased risk of infection with live vaccines.	Live vaccines (e.g. BCG, MMR, zoster and varicella) are contraindicated in patients on immunosuppressive therapy. Use with caution in patients on non-immunosuppressive therapy. For more information; refer to the recommended schedule of vaccination for cancer patients, as outlined in the Australian Immunisation Handbook

Administration

eviQ provides safe and effective instructions on how to administer cancer treatments. However, eviQ does not provide every treatment delivery option, and is unable to provide a comprehensive list of cancer treatment agents and their required IV line giving set/filter. There may be alternative methods of treatment administration, and alternative supportive treatments that are also appropriate. Please refer to the individual

Day 1

Approximate treatment time: 2 hours

Safe handling and waste management

Safe administration

General patient assessment prior to each treatment.

Any toxicity grade 2 or greater may require dose reduction, delay or omission of treatment and review by medical officer before recommencing treatment.

Prime IV line(s).

Insert IV cannula or access TIVAD or CVAD.

Pre treatment medication

Verify antiemetics taken or administer as prescribed.

Verify dexamethasone taken or administer as prescribed.

Ochemotherapy - Time out

Irinotecan

Prior to administration:

- · administer atropine premedication if required
- patient vital signs should be closely monitored post atropine administration as atropine can cause tachycardia, heart arrhythmias, hypertension and angina.

Administer irinotecan (irritant):

- · via IV infusion over 90 minutes
- protect from light
- flush with ~ 100 mL of sodium chloride 0.9%
- · observe patient for cholinergic symptoms
- if patient develops early onset diarrhoea and other cholinergic symptoms (such as rhinitis, increased salivation, miosis, lacrimation, diaphoresis, flushing) stop infusion, monitor vital signs and review by medical officer.

Remove IV cannula and/or deaccess TIVAD or CVAD.

Continue safe handling precautions until 7 days after completion of drug(s)

Discharge information

Antiemetics

· Antiemetics as prescribed.

Antidiarrhoeals

 Antidiarrhoeals (e.g. loperamide) as prescribed with written instructions on how to manage this side effect and 24 hour emergency contact.

Patient information

· Ensure patient receives patient information sheet.

Side effects

The side effects listed below are not a complete list of all possible side effects for this treatment. Side effects are categorised into the approximate onset of presentation and should only be used as a guide.

Immediate (onset hours to days)		
Nausea and vomiting	Read more about prevention of treatment induced nausea and vomiting	
Diarrhoea and cholinergic syndrome (early onset) associated with irinotecan	Cholinergic syndrome can occur during or shortly after commencing the irinotecan infusion, or within 24 hours of administration of the drug. It is characterised by diarrhoea, rhinitis, hypersalivation, miosis, lacrimation, diaphoresis, flushing, and abdominal cramping.	
	Read more about treatment induced diarrhoea	

Early (onset days to weeks)	Early (onset days to weeks)		
Neutropenia	Abnormally low levels of neutrophils in the blood. This increases the risk of infection. Any fever or suspicion of infection should be investigated immediately and managed aggressively. Read more about immediate management of neutropenic fever		
Anorexia	Loss of appetite accompanied by decreased food intake. Read more about anorexia		
Fatigue	Read more about fatigue		
Thrombocytopenia	A reduction in the normal levels of functional platelets, increasing the risk of abnormal bleeding. Read more about thrombocytopenia		
Diarrhoea (late onset) associated with irinotecan	Late onset of diarrhoea after 24 hours post irinotecan administration can be life threatening and requires immediate treatment. Read more about treatment induced diarrhoea		
Oral mucositis	Erythematous and ulcerative lesions of the gastrointestinal tract (GIT). It commonly develops following chemotherapy, radiation therapy to the head, neck or oesophagus, and high dose chemotherapy followed by a blood and marrow transplant (BMT). Read more about oral mucositis		

Late (onset weeks to months)		
Anaemia	Abnormally low levels of red blood cells (RBCs) or haemoglobin in the blood. Read more about anaemia	
Alopecia - partial	Hair thinning and/or patchy hair loss. Patients can also experience mild to moderate discomfort of the hair follicles, and rarely pain as the hair is falling out. Read more about alopecia and scalp cooling	
Pulmonary toxicity	Pulmonary toxicity may include damage to the lungs, airways, pleura and pulmonary circulation. Read more about pulmonary toxicity associated with anti-cancer drugs	

Evidence

The evidence supporting this regimen comes from 2 randomised phase III trials by Thuss-Patience et al¹ and Kang et al.²

Thuss-Patience et al¹

Between October 2002 and December 2006, 21 patients were randomised to receive irinotecan (irinotecan 250 mg/m² cycle 1 and increased to 350 mg/m² in subsequent cycles as tolerated; repeated every 3 weeks) and 19 patients were randomised to best supportive care.

The primary end point was overall survival and secondary end points were response rate, time to tumour progression and toxicity. The study was closed prematurely due to poor accrual.

In the second line setting, three weekly irinotecan significant prolonged overall survival compared to best supportive care in the studied patients. The median overall survival (OS) improved to 4 months for irinotecan arm compared to 2.4 months in the best supportive care (BSC) arm (p-value=0.012; HR:0.48, 95% CI: 0.25-0.92).

Kang et al²

Between September 2008 and September 2010, 126 patients were randomised to receive salvage chemotherapy (irinotecan 150 mg/m² repeated every 2 weeks or docetaxel 60 mg/m² every 3 weeks) plus best supportive care and 62 patients were randomised to best supportive care.

The primary end point was overall survival.

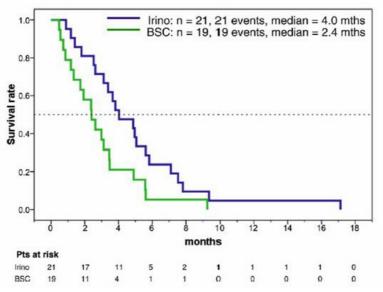
Compared to best supportive care in the second or third line setting, for ECOG 0 and 1 patients, irinotecan delivered at 150 mg/m^2 every two weeks improved overall survival from 3.8 months in best supportive care arm to 5.3 months in salvage chemotherapy arm (p=0.007). An exploratory analysis demonstrated no significant overall survival difference between salvage chemotherapy options of docetaxel (n=66) compared to irinotecan (n=60), 5.2 months vs 6.5 months respectively (p=0.116).

Efficacy

Thuss-Patience et al¹

Efficacy ¹	Irinotecan (n=21)	BSC (n=19)	<i>p</i> -value
Overall survival	4 months	2.4 months	0.012

Kaplan-meier curves of overall survival (intention to treat population)¹



© European Journal of Cancer 2011

Optional dose escalation of irinotecan to 350 mg/m² was dependent on toxicity. 37% of patients underwent this dose escalation according to protocol. Assessment of quality of life using the EORTC QLQ C30 questionnaire was planned but return of the forms was too poor to undertake meaningful analyses.

Kang et al²

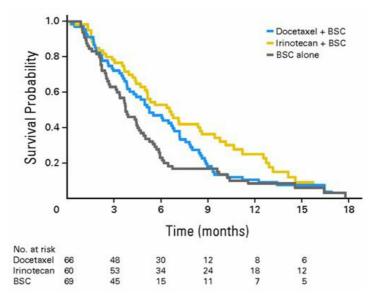
Efficacy ²	Arm A (n=126)	Arm B (n=62)	<i>p</i> -value
Overall survival	5.3 months	3.8 months	0.007

Arm A: salvage chemotherapy (docetaxel or irinotecan), Arm B: best supportive care

Exploratory analysis - Docetaxel vs irinotecan

Efficacy ²	Docetaxel (n=66)	Irinotecan (n=60)	<i>p</i> -value
Overall survival	5.2 months	6.5 months	0.116

Kaplan-meier curves of overall survival²



© Journal of Clinical Oncology 2012

No data on quality of life was collected.

Toxicity

Thuss-Patience et al¹

Grade 3/4 diarrhoea and neutropenia occurred in 26% and 21% of patients treated with three weekly irinotecan respectively.

Grade 3/4 Toxicity	Arm A: Irinotecan (n=19) %
Nausea	5
Vomiting	5
Diarrhoea	26
Neutropenic fever	16
Leucocytopenia	21
Thrombocytopenia	-
Haemoglobin	11

Kang et al²
Grade 3/4 diarrhoea and neutropenia occurred in 8% and 18% of patients treated with two weekly irinotecan respectively.

Grade 3/4 Toxicity	Docetaxel (n=66) %	Irinotecan (n=60) %	BSC (n=62) %
Neutropenia	15	18	2
Anaemia	30	32	23
Thrombocytopenia	2	3	0
Fatigue	26	10	27
Anorexia	20	5	10
Nausea	19	3	6
Diarrhoea	9	8	5
Stomatitis	11	5	2

BSC: best supportive care

References

- 1 Thuss-Patience, P. C., A. Kretzschmar, D. Bichev, et al. 2011. "Survival advantage for irinotecan versus best supportive care as second-line chemotherapy in gastric cancer--a randomised phase III study of the Arbeitsgemeinschaft Internistische Onkologie (AIO)." Eur J Cancer 47(15):2306-2314.
- 2 Kang, J. H., S. I. Lee, H. Lim do, et al. 2012. "Salvage chemotherapy for pretreated gastric cancer: a randomized phase III trial comparing chemotherapy plus best supportive care with best supportive care alone." J Clin Oncol 30(13):1513-1518.

History

Version 4

Date	Summary of changes
27/04/2021	Patient information title updated- 'stomach or oesophageal cancer metastatic' added. Version number changed to V.4.
20/10/2022	Protocol reviewed electronically by Medical Oncology Reference Committee. No changes. Next review 2 years.

Version 3

Date	Summary of changes
27/03/2015	New protocol taken to Medical Oncology Reference Committee meeting.
05/05/2015	Approved and published on eviQ.
15/05/2015	Skin rash (dryness, erythema and pruritus) side effect removed.
09/11/2016	The following changes made post Medical Oncology Reference Committee meeting held on 21 October 2016. Title changed from advanced to metastatic. Link to AGITG and ANZCTR added.
31/05/2017	Transferred to new eviQ website. Version number changed to V.2. Hepatitis B screening changed to NOT recommended.
16/02/2018	Protocol reviewed electronically by Medical Oncology Reference Committee. Protocol title changed to Gastric and gastroesophageal metastatic irinotecan two weekly to align with protocol indication. Patient information sheet title changed to "Stomach and gastroesophageal junction cancer". Evidence section reformatted. Review protocol in 2 years
10/05/2018	Haematological dose modifications updated as per consensus of the expert clinician group. Version number changed to V.3.
22/06/2018	Antiemetics updated to be in line with international guidelines. Note to dexamethasone added.
25/09/2020	Protocol reviewed electronically by the Medical Oncology Reference committee. Nil changes. Next review in 2 years.

The information contained in this protocol is based on the highest level of available evidence and consensus of the eviQ reference committee regarding their views of currently accepted approaches to treatment. Any clinician (medical oncologist, haematologist, radiation oncologist, medical physicist, radiation therapist, pharmacist or nurse) seeking to apply or consult this protocol is expected to use independent clinical judgement in the context of individual clinical circumstances to determine any patient's care or treatment. While eviQ endeavours to link to reliable sources that provide accurate information, eviQ and the Cancer Institute NSW do not endorse or accept responsibility for the accuracy, currency, reliability or correctness of the content of linked external information sources. Use is subject to eviQ's disclaimer available at www.eviQ.org.au

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The currency of this information is guaranteed only up until the date of printing, for any updates please check: https://www.eviq.org.au/p/1705

13 Jul 2023

Patient information - Stomach or oesophageal cancer metastatic - Irinotecan



Patient's name:

Your treatment

The treatment schedule below explains how the drug for this treatment is given.

Irinotecan

This treatment cycle is repeated every 14 days. Sometimes this treatment cycle may be repeated every 21 days, your doctor will talk to you about this. Your doctor will advise you of the number of treatments you will have.

Day Tre	eatment	How it is given	How long it takes
	notecan ve-ri-noe-TEE-kan)	By a drip into a vein	About 2 hours

When to get help

Anticancer drugs (drugs used to treat cancer) can sometimes cause serious problems. It is important to get medical help immediately if you become unwell.

IMMEDIATELY go to your nearest hospital Emergency Department, or contact your doctor or nurse if you have any of the following at any time:	Emergency contact details Ask your doctor or nurse from your treating team who to contact if you have a problem
 a temperature of 38°C or higher chills, sweats, shivers or shakes shortness of breath uncontrolled vomiting or diarrhoea pain, tingling or discomfort in your chest or arms you become unwell. 	Daytime: Night/weekend: Other instructions:

During your treatment immediately tell the doctor or nurse looking after you if you get any of the following problems:

- leaking from the area where the drugs are being given
- pain, stinging, swelling or redness in the area where the drugs are being given or at any injection sites
- a skin rash, itching, feeling short of breath, wheezing, fever, shivers, or feeling dizzy or unwell in any way (allergic reaction).

Other information about your treatment

Changes to your dose or treatment delays

Sometimes a treatment may be started at a lower dose or the dose needs to be changed during treatment. There may also be times when your treatment is delayed. This can happen if your doctor thinks you are likely to have severe side effects, if you get severe side effects, if your blood counts are affected and causing delays in treatment, or if you are finding it hard to cope with the

treatment. This is called a dose reduction, dose change or treatment delay. Your doctor will explain if you need any changes or delays to your treatment and the reason why.

Blood tests and monitoring

Anti-cancer drugs can reduce the number of blood cells in your body. You will need to have regular blood tests to check that your blood cell count has returned to normal. If your blood count is low, your treatment may be delayed until it has returned to normal. Your doctor or nurse will tell you when to have these blood tests.

Other medications given during this treatment

- Anti-sickness (anti-nausea) medication: you may be given some anti-sickness medication. Make sure you take this medication as your doctor or nurse tells you, even if you don't feel sick. This can help to prevent the sickness starting.
- Antidiarrhoeals: you will be given some medication called loperamide to treat the diarrhoea. See the *Side effects* section below for further information about diarrhoea and for instructions on how and when to take the loperamide.

Side effects

Cancer treatments can cause damage to normal cells in your body, which can cause side effects. Everyone gets different side effects, and some people will have more problems than others.

The table below shows some of the side effects you may get with this treatment. You are unlikely to get all of those listed and you may also get some side effects that have not been listed.

Tell your doctor or nurse about any side effects that worry you. Follow the instructions below and those given to you by your doctor or nurse.

Immediate (onset hours to days)					
Nausea and vomiting	 You may feel sick (nausea) or be sick (vomit). Take your anti-sickness medication as directed even if you don't feel sick. Drink plenty of fluids (unless you are fluid restricted). Eat small meals more frequently. Try food that does not require much preparation. Try bland foods like dry biscuits or toast. Gentle exercise may help with nausea. Ask your doctor or nurse for eviQ patient information - Nausea and vomiting during cancer treatment. Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have uncontrolled vomiting or feel dizzy or light-headed. 				
Diarrhoea (early onset)	 You may get bowel motions (stools, poo) that are more frequent or more liquid (diarrhoea). You may also get: bloating, cramping or pain increased saliva, a runny nose or watery eyes sweating or flushing. These symptoms are caused by the drug irinotecan. They can occur during or shortly after the drug has been given. Tell your doctor or nurse immediately if you develop any of these symptoms. 				

Early (onset days to weeks)

Infection risk (neutropenia)

- This treatment lowers the amount of white blood cells in your body. The type of white blood
 cells that help to fight infection are called neutrophils. Having low level of neutrophils is
 called neutropenia. If you have neutropenia, you are at greater risk of getting an infection. It
 also means that your body can't fight infections as well as usual. This is a serious side effect,
 and can be life threatening.
- Wash your hands often.
- Keep a thermometer at home and take your temperature regularly, and if you feel unwell.
- Do your mouth care regularly.
- Inspect your central line site (if you have one) daily for any redness, pus or swelling.
- Limit contact with people who are sick.
- Learn how to recognise the signs of infection.
- Ask your doctor or nurse for eviQ patient information Infection during cancer treatment.
- Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you get any of the following signs or symptoms:
 - o a temperature of 38°C or higher
 - o chills, shivers, sweats or shakes
 - o a sore throat or cough
 - uncontrolled diarrhoea
 - shortness of breath
 - a fast heartbeat
 - become unwell even without a temperature.

Appetite loss (anorexia)

- · You may not feel like eating.
- Try to avoid drinking fluids at meal times.
- Try to eat small meals or snacks regularly throughout the day.
- Try to eat food that is high in protein and calories.
- If you are worried about how much food you can eat, or if you are losing weight, ask to speak to a dietitian.

Tiredness and lack of energy (fatigue)

- You may feel very tired, have no energy, sleep a lot, and not be able to do normal activities or things you enjoy.
- Do not drive or operate machinery if you are feeling tired.
- Nap for short periods (only 1 hour at a time)
- Prioritise your tasks to ensure the best use of your energy.
- Eat a well balanced diet and drink plenty of fluids (unless you are fluid restricted).
- Try some gentle exercise daily.
- Allow your friends and family to help.
- Tell your doctor or nurse if you get any of the symptoms listed above.

Low platelets (thrombocytopenia)

- This treatment lowers the amount of platelets in your blood. Platelets help your blood to clot. When they are low, you are at an increased risk of bleeding and bruising.
- Try not to bruise or cut yourself.
- Avoid contact sport or vigorous exercise.
- Clear your nose by blowing gently.
- · Avoid constipation.
- Brush your teeth with a soft toothbrush.
- Don't take aspirin, ibuprofen or other similar anti-inflammatory medications unless your doctor tells you to.
- Tell your doctor or nurse if you have any bruising or bleeding.
- Tell your doctor or nurse immediately, or go to your nearest hospital Emergency Department if you have any uncontrolled bleeding.

Diarrhoea (late onset)

- You may get bowel motions (stools, poo) that are more frequent or more liquid (diarrhoea).
- You may also get bloating, cramping or pain.
- These symptoms are caused by the drug irinotecan. This can become very serious and life threatening if not treated quickly and properly.
- Take your antidiarrhoea medication, loperamide, as prescribed:
 When the diarrhoea starts, take 4 mg (this is 2 tablets/capsules), then take one
 tablet/capsule (2 mg) every 2 hours during the day and 2 tablets/capsules (4 mg) every 4
 hours at night while you still have diarrhoea and until the diarrhoea has stopped for 12 hours.
 You should not take loperamide at these doses for more than 48 hours.
- Drink plenty of fluids (unless you are fluid restricted).
- Eat and drink small amounts more often.
- Avoid spicy foods, dairy products, high fibre foods, and coffee.
- Ask your doctor or nurse for eviQ patient information Diarrhoea during cancer treatment.
- Tell your doctor or nurse if you get any of the symptoms listed above.
- Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have diarrhoea for more than 24 hours, any blood in your bowel motions, or a temperature of 38°C or higher.

Mouth pain and soreness (mucositis)

- You may have:
 - bleeding gums
 - o mouth ulcers
 - o a white coating on your tongue
 - o pain in the mouth or throat
 - o difficulty eating or swallowing.
- Avoid spicy, acidic or crunchy foods and very hot or cold food and drinks.
- · Try bland and soft foods.
- Brush your teeth gently with a soft toothbrush after each meal and at bedtime. If you normally floss continue to do so.
- Rinse your mouth after you eat and brush your teeth, using either:
 - 1/4 teaspoon of salt in 1 cup of warm water, or
 - 1/4 teaspoon of bicarbonate of soda in 1 cup of warm water
- Ask your doctor or nurse for eviQ patient information Mouth problems during cancer treatment.
- Tell your doctor or nurse if you get any of the symptoms listed above.

Late (onset weeks to months)	
Low red blood cells (anaemia)	 You may feel dizzy, light-headed, tired and appear more pale than usual. Tell your doctor or nurse if you have any of these signs or symptoms. You might need a blood transfusion. Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have any chest pain, trouble breathing, or feel like your heart is racing.
Hair thinning	 Your hair may become dry and may break easily. You may lose some of your hair. Use a gentle shampoo and a soft hairbrush. Take care with hair products like hairspray, hair dye, bleaches and perms. Protect your scalp from the cold with a hat or scarf. Protect your scalp from the sun with a hat and sunscreen of SPF 50 or higher. Ask your doctor or nurse about the Look Good Feel Better program (www.lgfb.org.au)
Lung problems	 Lung problems are rare, but can be serious. They may occur throughout treatment or after the completion of treatment. You may get: shortness of breath fever dry cough wheezing fast heartbeat chest pain. Your doctor will monitor how well your lungs are working during your treatment. Tell your doctor or nurse immediately, or go to the nearest hospital Emergency Department if you have chest pain or become short of breath.

General advice for people having cancer treatment

Chemotherapy safety

- Learn how to keep you and your family safe while you are having anticancer drugs.
- See our patient information sheet Chemotherapy safety at home.

Blood clot risk

- Cancer and anticancer drugs can increase the risk of a blood clot (thrombosis).
- Tell your doctor if you have a family history of blood clots.
- A blood clot can cause pain, redness, swelling in your arms or legs, shortness of breath or chest pain.
- If you have any of these symptoms go to your nearest hospital Emergency Department.

Medications and vaccinations

- Before you start treatment, tell your doctor about any medications you are taking, including vitamins or herbal supplements.
- Don't stop or start any medications during treatment without talking to your doctor and pharmacist first.
- Paracetamol is safe to take if you have a headache or other mild aches and pains. It is recommended that you avoid taking aspirin, ibuprofen and other anti-inflammatory type medications for pain while you are having treatment. However, if these medications have been prescribed by your doctor, do not stop taking them without speaking with your doctor.
- Vaccinations such as flu and tetanus vaccines are safe to receive while having treatment. Do not have any live vaccines during your treatment or for 6 months after it finishes. If you are unsure, check with your doctor before you have any vaccinations.
- People you live with should be fully vaccinated, including having live vaccines according to the current vaccination schedule. Extra
 care needs to be taken with hand washing and careful disposal of soiled nappies for infants who have recently received the
 rotavirus vaccine.

Other medical and dental treatment

- If you go to hospital or any other medical appointment (including dental appointments), always tell the person treating you that you are receiving anticancer drugs.
- Before you have any dental treatment, talk to your doctor.

Diet

- While you are receiving this treatment it is important that you try to maintain a healthy diet.
- Grapefruit and grapefruit juice can interact with your medication and should be avoided while you are on this treatment.
- Speak to your doctor or nurse about whether drinking alcohol is safe with your treatment.
- If you have any concerns about recent weight loss or weight gain or questions about your diet, ask to speak to a dietitian.

Fertility

- Some cancer treatments can reduce your fertility. This can make it difficult or impossible to get pregnant or father a child.
- Talk to your doctor or nurse before you start any treatment. Depending on your situation there may be fertility sparing options available to you and/or your partner, discuss these with your doctor or nurse.

Pregnancy and breastfeeding

- Some cancer treatments can be dangerous to unborn babies. Talk to your doctor or nurse if you think there is any chance that you could be pregnant.
- Do not try to get pregnant or father a child during this treatment. Contraception should be used during treatment and after stopping treatment. Ask your doctor or nurse about what type of contraception you should use.
- If you are planning pregnancy/fatherhood after completing this treatment, talk to your doctor. Some doctors advise waiting between 6 months and 2 years after treatment.
- · Do not breastfeed if you are on this treatment, as anti-cancer medications can also pass into breast milk.

Sex life and sexuality

- The desire to have sex may decrease as a result of this treatment or its side effects.
- · Your emotions and the way you feel about yourself may also be affected by this treatment.
- It may help to discuss your concerns with your partner and doctor or nurse.

Quitting smoking

- It is never too late to guit smoking. Quitting smoking is one of the best things you can do to help your treatment work better.
- There are many effective tools to improve your chances of quitting.
- Talk to your treating team for more information and referral to a smoking cessation support service.

Staying active

- · Research shows that exercise, no matter how small, has many benefits for people during and after cancer treatment.
- Talk to your doctor before starting an exercise program. Your doctor can advise whether you need a modified exercise program.

For more information about cancer treatment, side effects and side effect management see our Patient and carers section.

Where to get more information

Telephone support

• Call Cancer Council on 13 11 20 for cancer information and support

Stomach and oesophageal cancer information

• Pancare Foundation - pancare.org.au

General cancer information and support

- Australian Rare Cancer (ARC) Portal arcportal.org.au/
- Beyondblue beyondblue.org.au
- Cancer Australia canceraustralia.gov.au
- Cancer Council Australia cancer.org.au
- Cancer Voices Australia cancervoicesaustralia.org
- CanTeen canteen.org.au
- Carers Australia carersaustralia.com.au
- CHILL Cancer related hair loss scalpcooling.org
- eviQ Cancer Treatments Online eviQ.org.au

- LGBTQI+ People and Cancer cancercouncil.com.au/cancer-information/lgbtqi
- Look Good Feel Better lgfb.org.au
- Patient Information patients.cancer.nsw.gov.au
- Radiation Oncology Targeting Cancer targetingcancer.com.au
- Redkite redkite.org.au
- Return Unwanted Medicines returnmed.com.au
- Staying active during cancer treatment patients.cancer.nsw.gov.au/coping-with-cancer/physical-wellbeing/staying-active

Quit smoking information and support

Quitting smoking is helpful even after you have been diagnosed with cancer. The following resources provide useful information and support to help you quit smoking. Talk to your treating team about any other questions you may have.

- Call Quitline on 13 QUIT (13 78 48)
- iCanQuit iCanQuit.com.au
- Patient Information patients.cancer.nsw.gov.au/coping-with-cancer/physical-wellbeing/quitting-smoking
- Quitnow quitnow.gov.au

Additional notes:		

This document is a guide only and cannot cover every possible situation. The health professionals caring for you should always consider your individual situation when making decisions about your care. Contact your cancer clinic staff or doctor if you have any questions or concerns about your treatment, or you are having problems coping with side effects. While eviQ endeavours to link to reliable sources that provide accurate information, eviQ and the Cancer Institute NSW do not endorse or accept responsibility for the accuracy, currency, reliability or correctness of the content of linked external information sources. Use of this document is subject to eviQ's disclaimer available at www.eviQ.org.au

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