

## IRINOTECAN OXALIPLATIN Modified de Gramont (FOLFOXIRI) (metastatic)

### INDICATION (ICD10) C18, C20

1. Metastatic colorectal cancer in young, fit patients with PS 0–1 and RAS/RAF mutations.

### REGIMEN

Day 1	<b>Premedication</b> 30 minutes prior to irinotecan: Atropine 250mcg subcutaneously			
	<b>IRINOTECAN</b>	165mg/m <sup>2</sup>	IV infusion	#ml diluent over 30 minutes
	<b>CALCIUM FOLINATE</b>	350mg	IV infusion	250ml glucose 5% over 2 hours concurrently with oxaliplatin
	<b>OXALIPLATIN</b>	85mg/m <sup>2</sup>	IV infusion	#ml glucose 5% over 2 hours
	<b>FLUOROURACIL</b>	3200mg/m <sup>2</sup>	IV infusion	continuous over 46 hours

# diluent and diluent volume for dose prescribed as per national standardised product specification or licensed dose

NB Calcium folinate (calcium leucovorin) is not the same as calcium levofolinate.

Calcium levofolinate is a single isomer of folinic acid and the dose is generally half that of calcium folinate.

### CYCLE FREQUENCY AND NUMBER OF CYCLES

Every 14 days

### ANTI-EMETICS

Highly emetogenic day 1

Low emetogenic risk day 2

### CONCURRENT MEDICATION REQUIRED

Fluorouracil	Mouth and bowel support eg loperamide, benzydamine mouthwash
Irinotecan	Ensure premedication atropine given 30 minutes prior to treatment
Oxaliplatin	Flush with glucose 5% before and after infusion
GCSF	Consider GCSF

### EXTRAVASATION AND TYPE OF LINE / FILTERS

Fluorouracil – inflammitant

Irinotecan - irritant

Oxaliplatin – exfoliant

Central line (single lumen)

### INVESTIGATIONS

Blood results required before SACT administration

FBC, U&E including Mg <sup>++</sup> and LFTs Neutrophils $\geq 1.5 \times 10^9/L$ (1.0-1.5 discuss with Dr) Platelets $\geq 100 \times 10^9/L$	baseline and every cycle
EDTA GFR or calculated CrCl at consultant's discretion.	baseline and every cycle
Serum creatinine	baseline and every cycle
DPYD (dihydropyrimidine dehydrogenase) test	baseline
Weight	baseline and every cycle

## MAIN TOXICITIES AND ADVERSE REACTIONS

Fluorouracil	Palmar plantar (handfoot syndrome) causing red palms and soles – treat with pyridoxine 50mg tds Diarrhoea – treat with loperamide or codeine Cardiotoxicity – monitor cardiac function (consider ECG at baseline). Special attention is advisable in treating patients with a history of heart disease, arrhythmias or angina pectoris or those who develop chest pain during treatment with fluorouracil. Stomatitis
Irinotecan	Acute cholinergic syndrome (including diarrhea and delayed diarrhoea, abdominal pain, hypotension, dizziness, malaise, increased salivation). Drink large volumes of fluid containing electrolytes and an appropriate antidiarrhoeal therapy - loperamide 4mg initially then 2mg every 2 hours, continuing for 12 hours after the last liquid stool (maximum of 48 hours in total).
Oxaliplatin	Peripheral sensory neuropathy and laryngeal spasm – avoid cold drinks and touching cold items

## INTERACTIONS WHICH MAY REQUIRE DOSE MODIFICATIONS

(not exhaustive list check SPC/BNF/Stockleys)

Fluorouracil	Cimetidine slightly increases exposure to fluorouracil Metronidazole increased toxicity Phenytoin concentration increased Warfarin
Irinotecan	Aprepitant and fosaprepitant increases exposure to irinotecan. Carbamazepine decreases exposure to irinotecan, avoid. Enzalutamide, mitotane, phenobarbitone, phenytoin, primidone and rifampicin decreases exposure to irinotecan, avoid.

## DOSE MODIFICATIONS

### Haematological

If neutrophils  $<1.5 \times 10^9/L$  or platelets  $<100 \times 10^9/L$  delay 1 week, only treat when neutrophils and platelets are above these limits.

If grade 4 neutropenia consider giving 50% irinotecan and fluorouracil in palliative disease.

If  $>1$  delay or 1 delay  $\geq 2$  weeks reduce all the irinotecan, oxaliplatin and fluorouracil doses to give 80% for future cycles. A further dose reduction may be made at the Clinician's discretion.

### Non-haematological

#### Irinotecan

If patients suffer from severe diarrhoea, which required IV rehydration or neutropenic fever, consider reduction in subsequent cycles, discuss with SpR or Consultant.

#### Oxaliplatin

If patients develop acute laryngopharyngeal dysaesthesia infuse the next cycle over 4 hours.

If symptoms persist give 80% dose.

If persistent sensory symptoms occur, withdraw treatment

## Hepatic impairment

### Fluorouracil

Significantly impaired hepatic function eg bilirubin >50micromol/L may be a sign of disease progression and require cessation of, or change in, treatment.

Always discuss deteriorating liver function with consultant.

If hepatic function is impaired, the recommended dose can be reduced to give 50% to 70% dose, but no need for dose adjustment is expected in mild and moderate (without renal impairment).

Bilirubin >85micromol/L	not recommended
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### Irinotecan

Bilirubin 24-50micromol/L	give 50% dose
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Bilirubin >51micromol/L	not recommended
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### Oxaliplatin

No dose adjustment is needed.

## Renal impairment

### Fluorouracil

If renal function is impaired, the recommended dose can be reduced to give 50% to 70% dose, but no need for dose adjustment is expected.

### Irinotecan

Not recommended in renal impairment, use with caution.

### Oxaliplatin

CrCl >30ml/min	give 100% dose
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CrCl <30ml/min	Dose reduce (consider 50% of original dose)
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## REFERENCES

Assessments

	Pre	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Ongoing
Clinical assessment	X		Pre cycle		Pre cycle	Alternate cycles or team discretion
SACT assessment (PS and toxicities)	X	X	X	X	X	Every cycle
FBC	X	X	X	X	X	Every cycle
U&E, calcium, & LFT	X	X	X	X	X	Every cycle
CrCl	X	X	X	X	X	Every cycle
Dihydropyrimidine dehydrogenase (DPYD) deficiency test	X					This test is normally only required if a patient has not had capecitabine or fluorouracil in the past. However a consultant may still request this test if capecitabine or fluorouracil was not tolerated previously. The result MUST be available before administration of chemotherapy unless clear documentation from the consultant is available to the contrary.
CT scan (advanced CRC patients)	X					Inform consultant team if not booked
Informed consent	X					Verbal each cycle
Height	X					
Weight recorded	X	X	X	X	X	Every cycle