DOXOrubicin (60mg/m^2) Therapy

INDICATIONS FOR USE:

INDICATION	ICD10	Regimen Code	HSE Approved reimbursement status*
Treatment of unresectable or metastatic hepatocellular carcinoma not suitable for treatment with regional therapies	C22	00386a	N/A

*This applies to post 2012 indications only.

TREATMENT:

The starting dose of the drugs detailed below may be adjusted downward by the prescribing clinician, using their independent medical judgement, to consider each patients individual clinical circumstances.

DOXOrubicin is administered once every 21 days for 3-6 cycles or until disease progression or unacceptable toxicity develops.
Facilities to treat anaphylaxis MUST be present when systemic anti-cancer therapy (SACT) is administered.

Day	Drug	Dose	Route	Diluent & Rate	Cycle
1	DOXOrubicin[a]	60mg/m^2	IV bolus	Slow bolus with NaCl 0.9%	Every 21 days for 3-6 cycles
[a]Lifetime cumulative dose of DOXOrubicin is 450mg/m^2 In establishing the maximal cumulative dose of an anthracycline, consideration should be given to the risk factors outlined below[i] and to the age of the patient.					

ELIGIBILITY:

- Indications as above
- ECOG 0-3
- Adequate hepatic, renal, and bone marrow function

EXCLUSIONS:

- Hypersensitivity to DOXOrubicin or any of the excipients
- Pregnancy
- Breastfeeding

PRESCRIPTIVE AUTHORITY:

- The treatment plan must be initiated by a Consultant Medical Oncologist

TESTS:

Baseline tests:

- FBC, liver and renal profile
- ECG ,MUGA, ECHO (LVEF > 50% to administer DOXOrubicin) if >65 years as clinically indicated

Regular tests:

- FBC, liver and renal profile prior to each cycle
- ECG,MUGA, ECHO as clinically indicated

Disease monitoring:

Disease monitoring should be in line with the patient's treatment plan and any other test/s as directed by the supervising Consultant.

DOSE MODIFICATIONS:

- Any dose modification should be discussed with a Consultant.

Haematological:

Table 1: Dose modification of DOXOrubicin in haematological toxicity

ANC ($x10^9$/L)		Platelets ($x10^9$/L)	Recommended Dose
>1	And	>100	100%
<1	Or	<100	Delay

Renal and Hepatic Impairment:

Table 2: Dose modification of DOXOrubicin in renal and hepatic impairment

Renal Impairment		Hepatic Impairment	
CrCl (mL/min)	**Dose**	**Total Bilirubin (micromol/L)**	**Dose**
>10	no dose adjustment is needed	20-50	50% of the original dose
<10	no need for dose adjustment is expected	51-86	25% of the original dose
Haemodialysis	75% of the original dose may be considered	>86 or Child-Pugh C:	not recommended
Renal and hepatic dose modifications from Giraud et al 2023			

SUPPORTIVE CARE:

EMETOGENIC POTENTIAL:

- As outlined in NCCP Classification Document for Systemic Anti-Cancer Therapy (SACT) Induced Nausea and Vomiting Available on the NCCP website

DOXOrubicin: High **(Refer to local policy).**

For information:
Within NCIS regimens, anti-emetics have been standardised by the Medical Oncologists and Haemato-oncologists and information is available in the following documents:

- NCCP Supportive Care Antiemetic Medicines for **Inclusion in NCIS** (Medical Oncology) - Available on the NCCP website
- NCCP Supportive Care Antiemetic Medicines for **Inclusion in NCIS** (Haemato-oncology) - Available on the NCCP website

PREMEDICATIONS:

None usually required

OTHER SUPPORTIVE CARE: No specific recommendations

ADVERSE EFFECTS:

- Please refer to the relevant Summary of Product Characteristics (SmPC) for details

REGIMEN SPECIFIC COMPLICATIONS:

- DOXOrubicin cardiotoxicity is enhanced by previous or concurrent use of other anthracyclines, or other potentially cardiotoxic drugs (e.g. 5-Fluorouracil, cycloPHOSphamide or PACLitaxel) or with products affecting cardiac function (e.g. calcium antagonists).

DRUG INTERACTIONS:

- Current drug interaction databases should be consulted for more information.

REFERENCES:

1. Falkson G, Moertel CG, Lavin P, et al. Chemotherapy studies in primary liver cancer: a prospective randomized clinical trial. Cancer. 1978; 42(5):2149.
2. Sciarrino E, Simonetti RG, Le Moli S, Pagliaro L et al Adriamycin treatment for hepatocellular carcinoma. Experience with 109 patients. Cancer. 1985; 56(12):2751
3. Giraud E L, Lijster B D, et al. Dose recommendations for anticancer drugs in patients with renal or hepatic impairment: an update. Available at: https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(23)00216-4/fulltext
4. Doxorubicin 2mg/ml Concentrate for Solution for Infusion. Summary of Product Characteristics. Last updated 29/05/2019. Accessed February 2025.Available at:https://www.hpra.ie/find-a-medicine/for-human-use/authorised-medicines/details/21049

Version	Date	Amendment	Approved By
1	20/12/2016		Prof Maccon Keane
2	26/11/2018	Updated to new NCCP template. Standardisation of dosing in hepatic impairment	Prof Maccon Keane
3	15/01/2020	Reviewed. Update of haematological dose modifications and emetogenic potential.	Prof Maccon Keane
4	01/04/2025	Reviewed. Testing section updated. Renal and Hepatic dose modifications updated to align with Giraud et al 2023. Regimen updated in line with NCCP standardisation.	Prof Maccon Keane

Comments and feedback welcome at oncologydrugs@cancercontrol.ie.

[i] Cardiotoxicity is a risk associated with anthracycline therapy that may be manifested by early (acute) or late (delayed) effects.

Risk factors for developing anthracycline-induced cardiotoxicity include:

• high cumulative dose, previous therapy with other anthracyclines or anthracenediones

• prior or concomitant radiotherapy to the mediastinal/pericardial area

• pre-existing heart disease

• concomitant use of other potentially cardiotoxic drugs

In establishing the maximal cumulative dose of an anthracycline, consideration should be given to the risk factors above and to the age of the patient