



Epirubicin 90 / Cyclophosphamide 600, Breast Cancer, adjuvant

Protocol-ID: 579 V1.1 (Short), EC (EPIR90/CYCL600), Breast Ca, adj.

Indication(s)

- Breast Cancer; ICD-10 C50.-

Protocol classification

- Classification: alternative
- Intensity: Standard dose
- Therapy phase:
- Therapy intention: curative

Cycles

Cycle length 21 days, recommended cycles: 4

Protocol sequences

- [EC \(EPIR90/CYCL600\), Breast Ca, adj. \(PID579\) -|- PACL80, Breast Ca, adj. \(PID581\)](#)
- [Neoadjuvant WSG-TP-II \(Paclitaxel\)](#)
- [Neoadjuvant WSG-TP-II \(Letrozole\)](#)
- [Neoadjuvant WSG-TP-II \(Tamoxifen\) -|- PERT840/TRAS8/TMXF20, Breast Ca, adj., C1 \(PID2450\)](#)
- [EC \(EPIR90/CYCL600\), Breast Ca, adj. \(PID579\) -|- DOCE100, adj. \(PID395\)](#)

Risks

- Emetogenicity (MASCC/ESMO): moderate (30-90%)
- Neutropenia: very high (>41%)
- Febrile Neutropenia: intermediate (10-20%)
- Thrombocytopenia below 50 000/ μ l: low (<10%)
- Anemia Hb below 8g/dl: low (<5%)
- Dyspnea: CTC AE \geq 3-4: 5%

Therapy

Hydration: Balanced Crystalloid Solution

HYD

Access: peripheral venous

Hydration before, during, or after antitumor therapy

Day	Substance	Dosage	Solution	Appl.	Inf. time	Procedure
1	Balanced Crystalloid Solution	500 ml		i.v.	30 min	30 min before Epirubicin (d1)

Antiemesis: Emetogenicity high (AC), FOSAP, GRAN i.v., DEXA i.v

AE

Access: peripheral venous

DGHO 2016, DKG 2016, MASCC/ESMO 2016, on combinations of anthracycline and cyclophosphamide

Day	Substance	Dosage	Solution	Appl.	Inf. time	Procedure
1	Fosaprepitant	150 mg	NaCl 0.9% 150 ml	i.v.	20 min	30 min before Epirubicin (d1)
1	Dexamethasone	12 mg	NaCl 0.9% 50 ml	i.v.	5 min	30 min before Epirubicin (d1)
1	Granisetron	1 mg	NaCl 0.9% 50 ml	i.v.	5 min	15 min before Epirubicin (d1)

or other 5-HT3 receptor antagonist

Supportive therapy: Mesna i.v., hour 0 (pre), p.o. 2 h, 6 h after onset Cyclophosphamide

SUP

Access: peripheral venous

Mesna 0h,2h,6h, prophylaxis of urinary tract toxicity by cyclophosphamide. At the time of oxazaphosphorin injection, 20% of the oxazaphosphorin dose is injected simultaneously as mesna. 2 and 6 h after onset, oral intake of 40% of the oxazaphosphorin dose.

Day	Substance	Dosage	Solution	Appl.	Inf. time	Procedure
1	Mesna	120 mg/m ² BSA		i.v.	1 min	1 min before Cyclophosphamide (d1)
1	Mesna	240 mg/m ² BSA		p.o.		90 min after Cyclophosphamide (d1)
1	Mesna	240 mg/m ² BSA		p.o.		5 h after Cyclophosphamide (d1)

It is to be taken 6 hours after the start of the cyclophosphamide infusion.

Antineoplastic therapy: EPIR/CYCL Breast Carcinoma (EC)

CTX

Access: central venous, port

Day	Substance	Dosage	Solution	Appl.	Inf. time	Procedure
1	Epirubicin	90 mg/m ² BSA	Dextrose 5% 500 ml	i.v.	45 min	Sequence
1	Cyclophosphamide	600 mg/m ² BSA	NaCl 0.9% 500 ml	i.v.	30 min	Sequence

Hematopoietic growth factors: FN risk 10-20%, G-CSF long-acting, pegylated

HW

Access: - none -

Risk of febrile neutropenia (FN) 10-20% and 1 risk factor: age > 65 y, laboratory parameters (anemia, lymphocytopenia < 700/μl, hypalbuminemia, hyperbilirubinemia) previous chemotherapy, comorbidities, low performance status, advanced symptomatic tumor disease (DKG 2016)

Day	Substance	Dosage	Solution	Appl.	Inf. time	Procedure
2	Pegfilgrastim	6 mg		subc	Bolus	24 h after Cyclophosphamide (d1)

Use at risk: FN 10-20% and 1 risk factor, other long-acting G-CSF possible.

Substance linksLinks to substances are found [here](#).**Warnings**Epirubicin: cardiac toxicity, maximum cumulative dose 900-1000 mg/m² KOF.For EPIR extravasation: dry cold (not just before or after Dexrazoxane infusion) on day of extravasation. Dexrazoxane i.v. for 3 days: 2 days 1000 mg/m², 3rd day 500 mg/m², do not use in parallel with DMSO. First infusion as soon as possible and within the first 6 hours.**References**

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- De Laurentiis M, Taxane-based combinations as adjuvant chemotherapy of early breast cancer: a meta-analysis of randomized trials. J Clin Oncol 2008 Jan 01;26(1):44-53. doi: 10.1200/JCO.2007.11.3787. PMID: 18165639. [PMID]
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- Jones RL, A randomised pilot Phase II study of doxorubicin and cyclophosphamide (AC) or epirubicin and cyclophosphamide (EC) given 2 weekly with pegfilgrastim (accelerated) vs 3 weekly (standard) for women with early breast cancer. Br J Cancer 2009 Jan 27;100(2):305-10. doi: 10.1038/sj.bjc.6604862. PMID: 19165198. [PMID]

Recommendations

- 12/2023: [European Society for Medical Oncology](#)



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