

Role of the oncology pharmacist to ensure clinical appropriateness of injectable chemotherapy

Introduction

Chemotherapy administration comes with significant risk due to the narrow therapeutic index of the various drugs, the complexity of treatment protocols and the variability of the administration and documentation processes.

The Special Interest Group (SIG) on clinical pharmacy made a checklist that outlines the points that need to be checked in order to support safe administration of the appropriate dose of injectable chemotherapy for oncology patients.

The checklist below is for oncology pharmacists working at centralized cytotoxic preparation unit and clinical pharmacists working at an oncology department.

The pharmacist may not be the sole professional checking all items listed below. Depending on local procedures, other healthcare professionals can take responsibility for checking of one or more of the points.

Other forms of anticancer therapies (oral anticancer drugs) are not covered by this checklist, so, in this case, a modified checklist can be used. This checklist covers both infusions as well as injections with cytotoxic drugs.

Checklist for injectable chemotherapy

- patient consent (form) - if applicable according to national requirements
- lab parameters (not exhaustive, some individual drugs may require additional lab parameters to be checked)

blood counts, especially:

- hemoglobin
- white blood cell
- neutrophil granulocytes
- platelets
- liver and renal functions
- ASAT, ALAT, Gamma GT, Bilirubin
- GFR, Creatinine

serum ion levels

- Na, K, Ca, Mg

- clinical condition of the patient
 - performance status (ECOG, Karnofsky, ...)
 - nutritional status (NRS 2002, MUST, ...)
 - hydration status
 - condition of the veins
 - exclusion of acute infection

- medical history, comorbidities – based on electronic patient documents, if available
 - medical history including
 - weight history
 - creatinine clearance history
 - risk factors for chemotherapy induced adverse reactions
 - documented allergies

- medication reconciliation and review
 - drug-drug, drug-food and drug-herb interactions
 - CAM (complementary and alternative medicines) use, if applicable
 - other medication associated with cancer or chemotherapy: referring to both the current and earlier treatments
 - appropriate pain management, if needed (VAS scale)
 - anticoagulant therapy, if needed
 - chemotherapy induced nausea and vomiting prevention, if needed
 - hydration, if needed
 - preventing (febrile) neutropenia, if needed
 - preventing infections, if needed

- chemotherapy protocol
 - relevant for the cancer type
 - validated by the multiprofessional care team
 - based on the patient's body surface or body weight
 - for carboplatin – Area Under the Curve (AUC)
 - if applicable, capping rules for parameters (for example for eGFR)
 - dosing intervals
 - maximum number of cycles
 - dose modification if needed
 - chemotherapy history
 - cycle intervals
 - previous dose modifications

- premedication if needed
 - antiemesis
 - hydration
 - prevent allergies
 - prevent febrile neutropenia
 - prevent diarrhea

- treatment related toxicities/side effects

Checklist for specific drugs

- anthracyclines – LVEF assessment
- fluorouracyles, capecitabine – DPD