Cancer Prognostics and Diagnostics (CPD)

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Short Report

How to Prevent Chemotherapy Medication Errors.

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Introduction

Chemotherapy medication errors are source of some morbidity and significant mortality. Prevention from these complications should be addressed to the new staff and nurses in the oncology wards.

Method

A systematic review on the publicized chemotherapy medication errors and outcomes was done with English language, Medline and although it must be believed that the reported cases are tip of an iceberg of errors that are not published.

Results

Important examples of errors were: Miscommunicated verbal orders; Total course or cycle dose given every day in spite of weekly or every two weeks or over three consecutive days; Lack of pertinent patient health care information (i.e. : lab data and patient demographics such as age, height, weight and surface area); Use of incorrect patient information/lab data or the information/lab data for another patient; Excessive interruptions during order processing or dose preparation (Phone, patients' ring, pagers, etc); Poor packing and labeling by manufacturers; Poor communication between pharmacy and the nursing and medical staff; Use of abbreviations of drug names (example: Vin for Vinblastin, Vincristine and Vinorelbine); Similar sounding drug names within the therapeutic class (example: Doxorobicin, Daunorubicin); Use of trade names which may vary even for generically available agents; Lack of warning stickers or labels to prevent inadvertent intrathecal administration of drugs such as Vincristine, Vinblastine, Doxorobicin and Daunorubicin; Failure to round drug doses which potentially leading to a 10 fold overdose if the decimal point is not seen; Widely differing dosing regimens for the same tumor type (example: various regimens of 5-Fluorouracil in colorectal cancer) or in various tumors; Use of outdated lab data (example:

serum creatinine or liver function tests for dose modification of certain medications). Also, there are some error prone medical transcriptions, for example: qd or QD for daily doses; qn, qhs, hs, bt for bedtime; x3d for x 3 days; per OS for orally or PO (misread as for left eye!); Failure to use a zero before a decimal point when the dose is less than a whole unit (example: avoid .1 mg instead of 0.1 mg).

Practical Guide

Please do:

1. Always double-check the dose against the actual drug regimen or protocol.
2. Always Use the full name (generic names preferred over the trade name) of the drugs.
3. Prescribe all drug doses clearly in terms of dose (example: mcg, mg, grams, etc).
4. Use a leading zero when the dose is less than 1 (write 0.1 mg not .1 mg which may be read as 1 mg).
5. Always round chemotherapy doses greater than 5 mg to the nearest reasonable amount and avoid excessive attempts at precision (ie, for Cisplatin write 125 mg, not 126.4 mg, and for Carboplatin, write 900 mg, not 898.57 mg).
6. Date all orders with day, month and year, also include the time of the day for inpatients.
7. Use body surface area dosing (mg/m^2) or for infants less than one year mg/kg or mcg/kg).
8. Write the daily dose not the course dose (example: in a patient with body surface area of 1.5 m^2, Cisplatin 20 mg/ m^2 per day for 5 days should be written: Cisplatin 30 mg/day for 5 days, neither 100 mg/m^2 per course nor 150 mg/course).
9. Avoid verbal order for the initiation of chemotherapy, but you may immediately stop chemotherapy by verbal order in the case of adverse reaction.
10. Realize that errors can and will happen at your wards, so create a committee of patient safety, develop a medication process improvement, prepare guidelines of drug preparation and teach new nurses and staff.

Please Don't:

1. Don't Use trade names, brand names, nicknames instead of generic names because for example "Aredia" which is a trade name for Pamidronate may be misconducted as "Adriamycin" or vice versa.
2. Don't write drugs in terms of ampules or vials. Drugs have more than one vial or ampule size (Vincristine has both 1 and 2 mg vials, Furesemide has 10,20 and 40 mg ampules, Cisplatine has 10 and 50 mg vials, etc).

Conclusion

Chemotherapy medication errors are not infrequent and should be considered that they may happen in your ward, by you and your personals, so a patient safety committee and annual education of all the staff is advisable, although new nurses should be trained on arrival. The guideline and continuous education program should be considered. Observation of trainees by authorized staff is suggested.