

Safe administration of chemotherapy by laminar hood

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Abstract

Chemotherapy can be life saving to a cancer patient, but unintentional exposure to these powerful agents may be endangering the lives of healthcare workers. Cytotoxic agents can be administered in a variety of ways. Precautions for agent preparation and precaution for agent administration should carefully be followed. Chemotherapy waste collection and disposal must be carried out effectively. Cleaning chemotherapy spills knowledge to be ensured. Acute exposure of spills to be noted and intimated immediately. Recommended precautions have to be followed.

Key Words: Cytotoxic, Chemotherapy, drugs, preparation.

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INTRODUCTION

Chemotherapy can be life saving to a cancer patient, but unintentional exposure to these powerful agents may be endangering the lives of healthcare workers. The risks involved can be reduced significantly if nurses adhere to standard safety precautions while handling cytotoxic drugs. S Gilani, 2014. Safe Handling of Cytotoxics required when handling and preparing medications in a biological safety cabinet; AC Easty - 2015, Indian journal publication.

Cytotoxic agents can be administered in a variety of ways, including Oral (by mouth), Topical (on the surface of the skin as a cream or lotion), Intravenous (into a vein or IV), Intramuscularly (into a muscle or IM), Subcutaneous (under the skin or SQ), Intra-arterial (into an artery) Intrathecal (into the central nervous system via the cerebrospinal fluid), Intrapleural (into the chest

cavity), Intraperitoneal (into the abdominal cavity), Intravesical (into the bladder), Intralesional (into the tumor). The risk varies with the specific drug and its concentration, and with the frequency and duration of exposure. Concern has therefore been raised regarding potential hazards to personnel handling chemotherapy. Studies indicate that observing certain precautions while handling chemotherapy reduces personnel exposure and presumably risk. All personnel working with chemotherapeutic agents must read the agent's Material Safety Data Sheet (MSDS) to address the requirement for hazard awareness training.

Precautions for agent preparation (reconstitution and dilution)

All agent preparation must be performed in a ducted biosafety cabinet. Wear chemotherapy gloves or double gloves of either surgical quality latex gloves or nitrile. Wear a protective gown that is lint-free, non-permeable with a solid front, long sleeves, and tight-fitting elastic or knit cuffs. The outer glove should be changed immediately if contaminated. Both gloves should be changed if the outer gloves is torn, punctured, or overtly contaminated with the drug (as in a spill) and every hour during preparation. All potentially contaminated disposable items (gloves used in prep) must be placed in a plastic bag (while in the biosafety cabinet) and then in the chemotherapy waste container. Sharps should be disposed of in a sharps container specific for chemotherapy. Sharp container must be labeled as holding chemotherapy items.

Preparations should be performed over plastic backed absorbent pads. External surfaces of syringes should be wiped with a clean alcohol pad to remove any potential contamination. Chemotherapeutic agents must be stored in an area labeled chemotherapeutic agents. Chemotherapeutic agents must be transported in ziplock bags with chemo labels. Leurlock syringes are recommended. A Chemotherapeutic agent spill kit must be available. The ducted biosafety cabinet should be cleaned (70% isopropyl alcohol) upon completion of tasks. Hands must be washed upon completion of tasks. Excess chemotherapeutic agent, not used, must be disposed of in chemotherapy waste container. Chemotherapy gloves, gowns and stickers can be purchased. Consult with EH&S Environmental Programs for disposal needs.

Precaution for Agent Administration

Wear double gloves (latex or nitrile) for all procedures involving chemotherapy administration. Change gloves after each use, tear, puncture, medication spill, or after 30 minutes of wear for latex, 60 minutes for nitrile. Wear protective gown with solid front at all time. For situations where potential eye contact with chemotherapeutic agent exists, safety goggle or face shield should be used.

Chemotherapy Waste Collection and Disposal

Obtain chemotherapy waste containers from Environmental Programs. Dispose all waste in a plastic bag and discarded in the chemical waste container. Seal filled chemical waste containers with the enclosed screw top. Use leurlock needles, if possible. Dispose all waste material in the appropriate chemical waste container. Complete a Chemical Collection Request Form.

Cleaning Chemotherapy Spills

Spills must be cleaned up immediately by properly protected trained personnel. Spills should be cleaned using contents in the spill kits. All other persons should leave the area. Small spills (less than 5 ml) outside the BSC should be cleaned immediately by personnel wearing a gown, two pairs of gloves (latex or nitrile) and mask. For spills greater than 5ml, a respirator mask (requires enrollment in UW's respirator program) and eye protection should also be worn (found in the spill kits). Liquids should be wiped with absorbent pads. The spill area should then be cleaned thoroughly with a detergent solution followed by clean water. Place waste in plastic bag and then in the chemotherapy waste container. Spill kits for chemotherapeutic agents can be purchased.

Acute Exposure of Spills

In case of skin contact with an antineoplastic drug product, wash the affected area as soon as possible.

Report incident to supervisor, complete Accident/Injury report. For eye exposure, flush with water for 15 minutes. Then go to Emergency Department.

RECOMMENDED PRECAUTIONS

Patients may use the toilet as usual, but close the lid and flush twice. Be sure to wash hands with soap and water. If a bedpan, commode or urinal is used, the caregiver should wear gloves when emptying it. Rinse it well with water and wash with soap and water at least once per day. The same applies to basins used for vomiting. Wash clothing and linen as usual unless it's soiled with chemotherapy or body fluids. Use gloves and immediately put the soiled laundry in the washer separate from other laundry. If you don't have a washer at the time, put laundry in a sealed plastic bag until it can be washed. If chemotherapy is spilled on skin, irritation or rash may occur. Wash the area thoroughly with soap and water. If redness lasts more than an hour, call the doctor's office. You can avoid contact with skin by wearing gloves when handling chemotherapy, equipment or wastes. For spills on the floor or in the home environment (not on your skin), your home health agency will supply you with a chemotherapy spill kit. Follow the instructions on the box exactly. All cartridges, bags, bottles or tubing that contains chemotherapy must be disposed of in the supplied needle box. Use gloves when handling all oral chemotherapy doses. Keep all chemotherapy drugs, equipment, wastes, needle boxes, etc. out of reach of children. Avoid Needle stick injury

CONCLUSION

Chemotherapy drugs are very effective for cancer patient, it has hazards for healthy human. It widely harm to the person through aerosol and skin contact. So Personal protective method are very important to administering chemo drugs.

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