

Approach

Use of cytotoxic drugs to kill or inhibit growth of rapidly dividing cells; treatment with a chemotherapy agent or regimen is based on cellular kinetics. Chemotherapy drugs are classified according to their effect on cell proliferation. The role of chemotherapy in cancer care can be to cure, control, or palliate.

Examples

Alkylating agents, antimetabolites, or plant alkaloids

Benefits

- Drugs are approved and available for a wide array of indications for both hematologic and solid tumors.
- May be used in combination with other therapies which could provide broader coverage and reduce the likelihood of resistance
- Can be used as a single agent
- Multiple methods of administration (injection, IV, topical, oral)
- Immediate onset

Limitations

- Non-specific cytotoxic effects on normal tissue
- Cancer cells may develop resistance.
- Wide range of toxicities possible which can be dose- or therapy-limiting
- Damage to healthy cells may cause side effects that decrease a patient's quality of life like myelosuppression, alopecia, fatigue, mucositis, and nausea/vomiting.
- Depending on individual factors, like cancer type and comorbidities, chemotherapy might not be indicated for patients because risks may outweigh benefits.

Target

Tumor or any rapidly dividing cells

Bibliography

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