

ANTIKANKER

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Mata Ajar Farmakologi Prodi Pendidikan Dokter
 Universitas Airlangga
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- Banyak obat antikanker memiliki “alias”
- Resistensi obat antikanker analog dengan resistensi antibakteri
- Kombinasi obat sering digunakan

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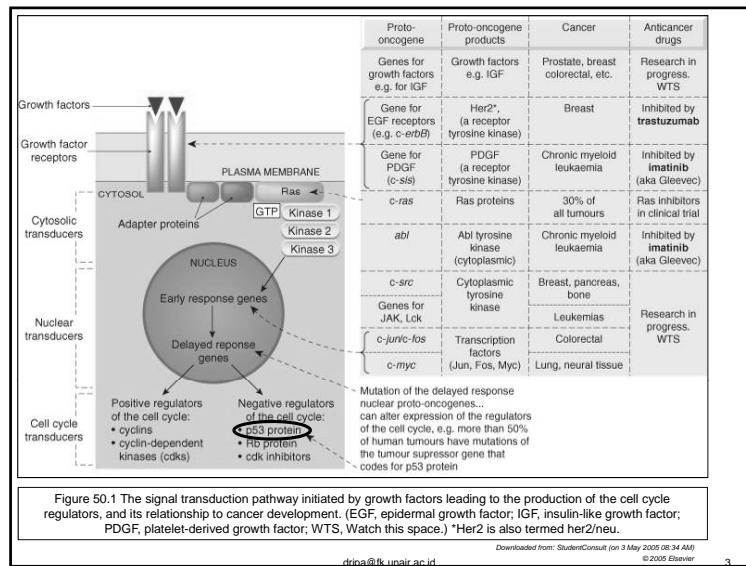


Figure 50.1 The signal transduction pathway initiated by growth factors leading to the production of the cell cycle regulators, and its relationship to cancer development. (EGF, epidermal growth factor; IGF, insulin-like growth factor; PDGF, platelet-derived growth factor; WTS, Watch this space.) *Her2 is also termed her2/neu.

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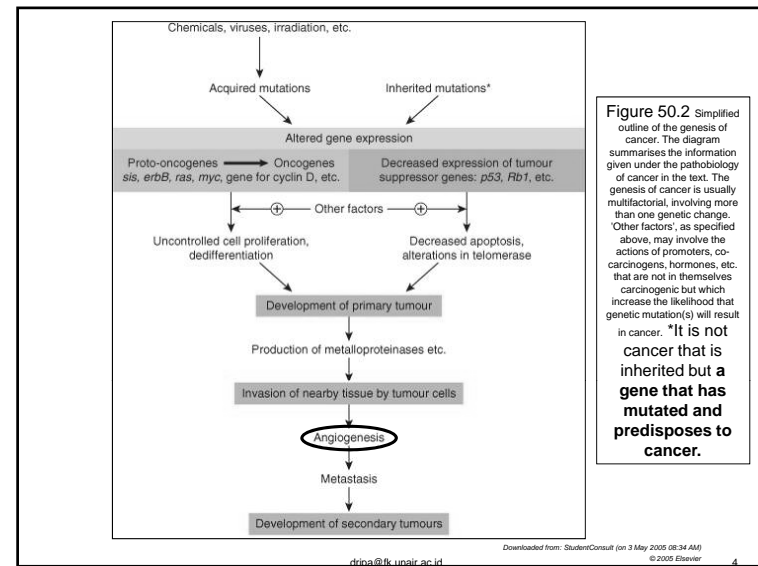


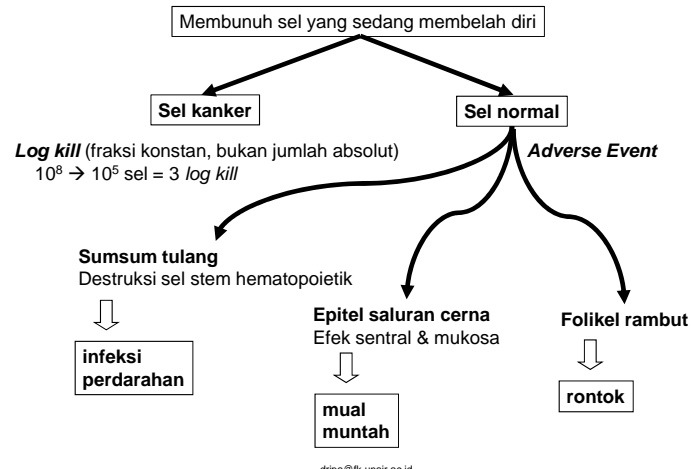
Figure 50.2 Simplified outline of the genesis of cancer. The diagram summarises the information given under the pathobiology of cancer in the text. The genesis of cancer is usually multifactorial, involving more than one genetic change. Other factors, as specified above, may involve the actions of promoters, co-carcinogens, hormones, etc. that are not in themselves carcinogenic but which increase the likelihood that genetic mutation(s) will result in cancer. *It is not cancer that is inherited but a gene that has mutated and predisposes to cancer.

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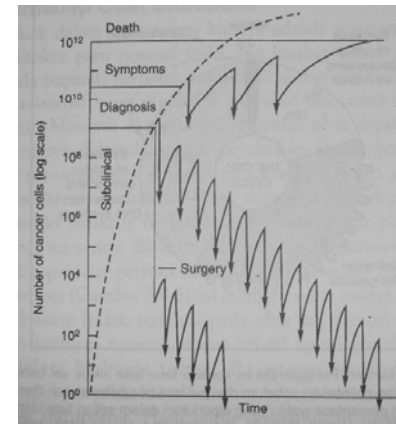
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Terapi Antikanker



Hipotesis *log-kill* (pembunuhan-logaritma)

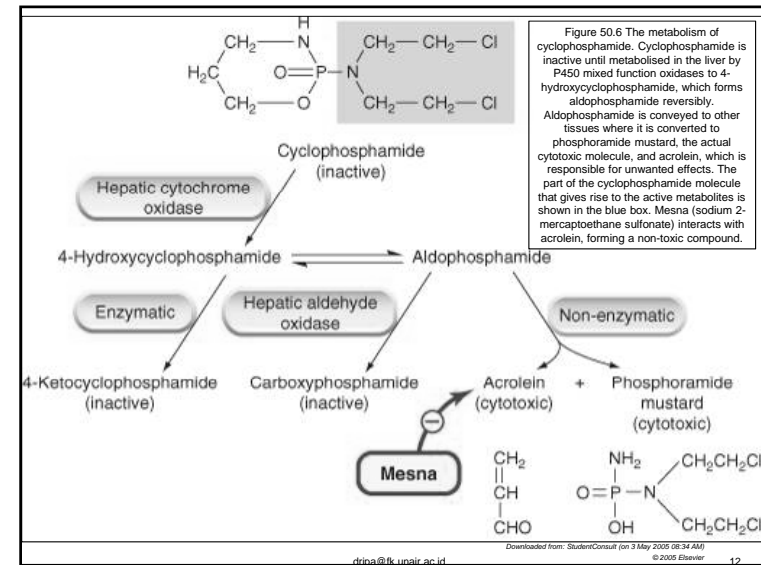
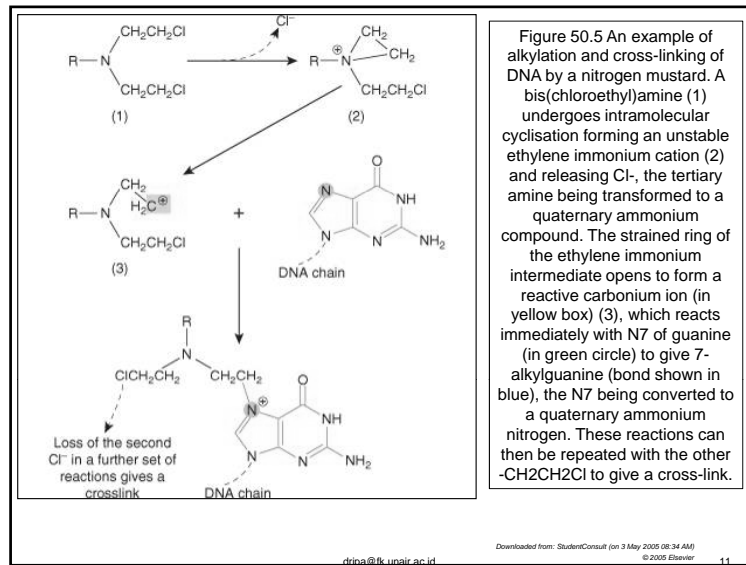
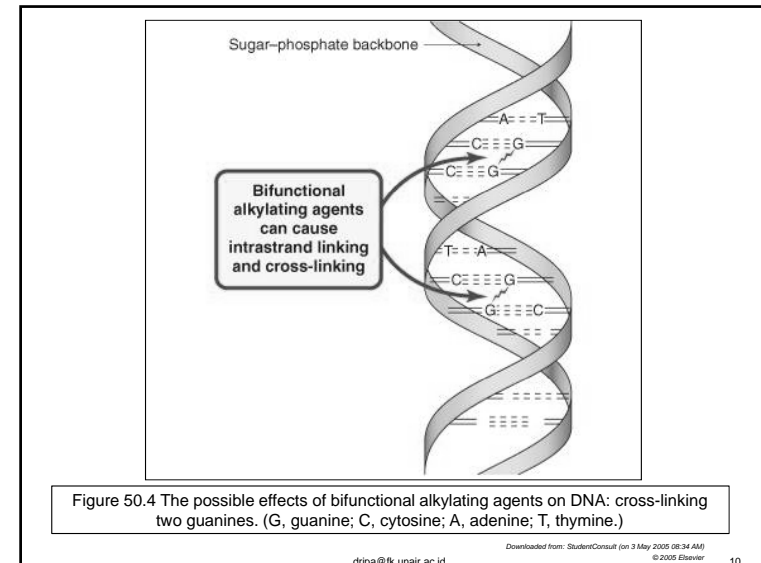
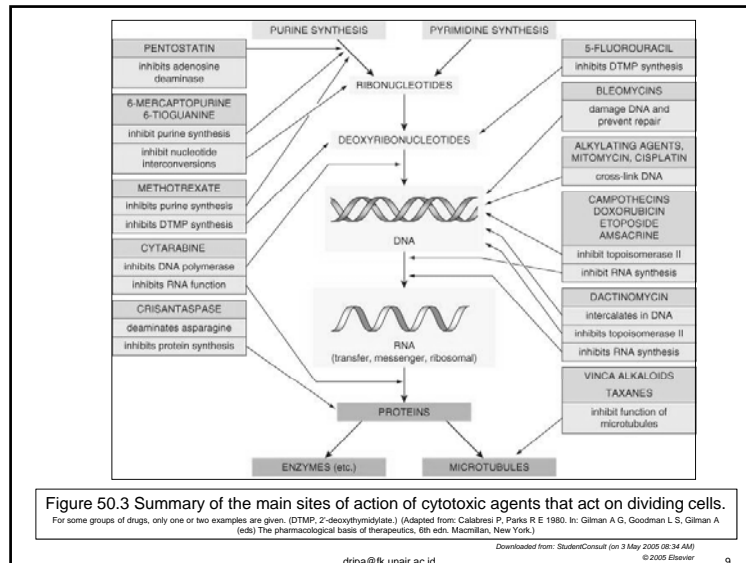


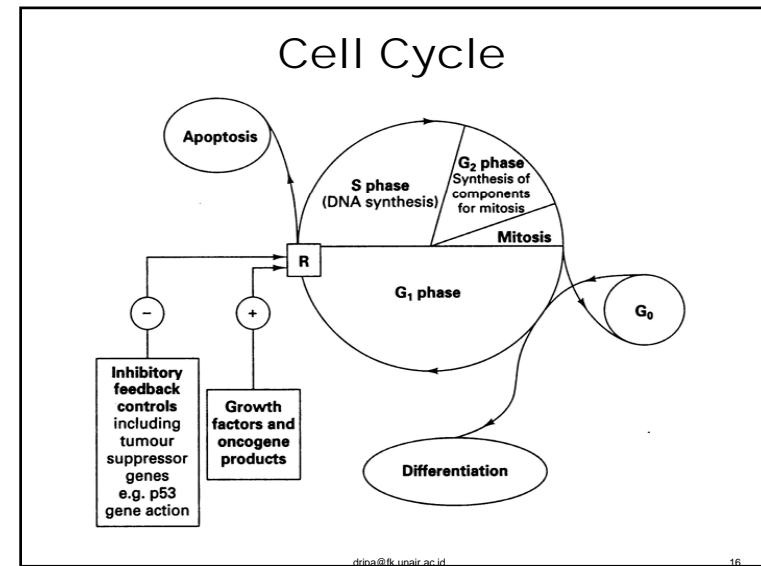
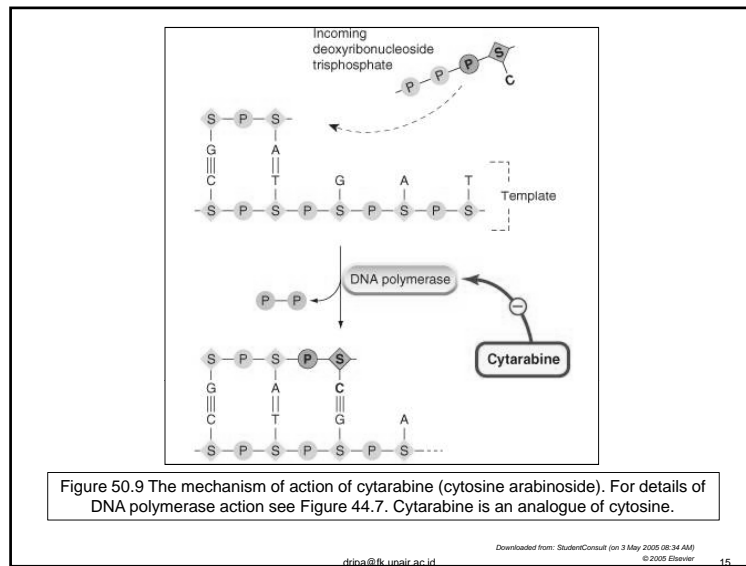
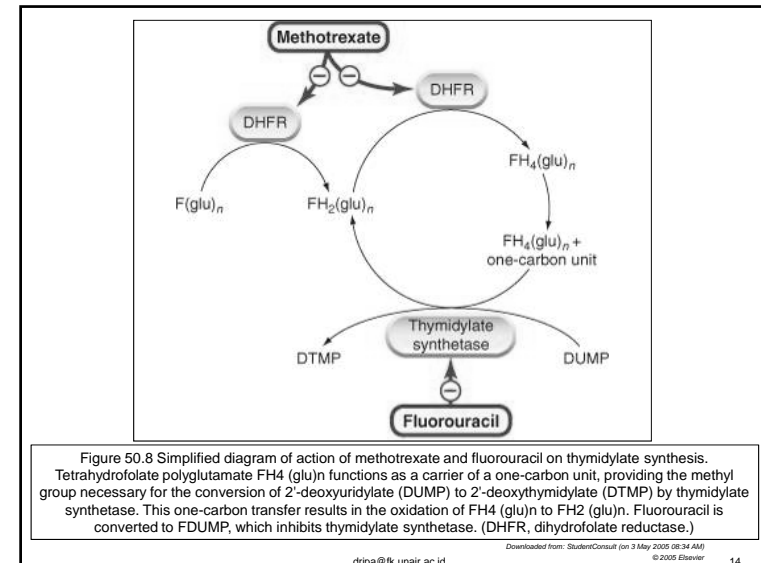
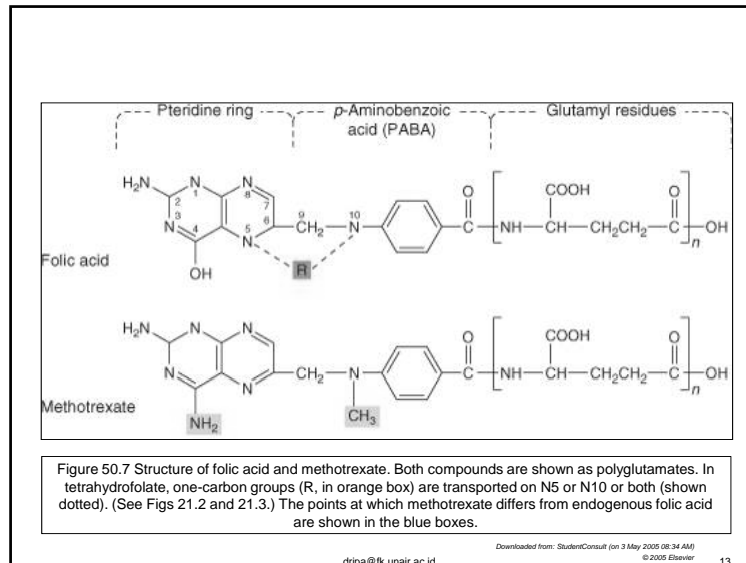
Adverse Event Umum lainnya

- Nekrosis jaringan lokal (keluar i.v.)
 - Kerusakan tubulus ginjal (*cisplatin*, dosis tinggi MTX)
 - Kardiotosik (*doxorubicin*, *daunorubicin*)
 - Fibrosis paru (*bleomycin*)
 - Toksik pada sistem saraf (*vincristine*) → *dose-limiting neurotoxicity*
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Klasifikasi Obat Antikanker

- Alkilasi polifungsional
 - Antimetabolit
 - Alkaloid tanaman
 - Antibiotik
 - Agen hormonal
 - Lain-lain: asparaginase, hydroxyurea, mitoxantrone, mitotane, derivat retinoic acid, faktor pertumbuhan tulang, amifostine, imunomodulator, antiangiogenesis
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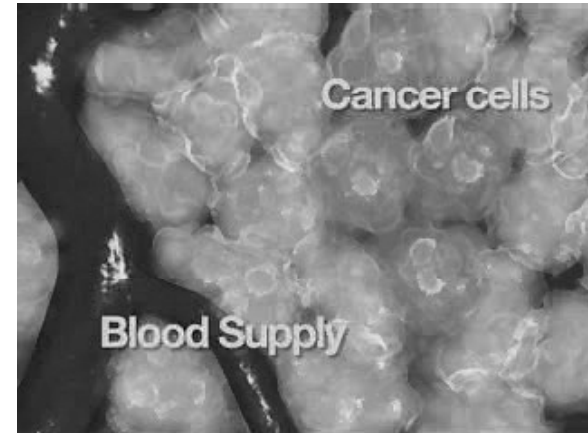
Cell Cycle Relationships of Major Classes of Drugs

Cell Cycle –Specific (CCS) Agents	Cell Ccycle-Nonspecific (CCNS) Agents
Antimetabolites (azacitidine, cytarabine, fluorouracil, mercaptopurine, methotrexate, thioguanine)	Alkylating agents (busulfan, cyclophosphamide, mechlorethamine, melphalan, thiotepa)
Bleomycin peptide antibiotics	Antibiotics (dactinomycin, daunorubicin, doxorubicin, plicamycin, mitomycin)
Podophylin alkaloids (etoposide, VP-16, teniposide, VM-26)	Cisplatin
Plant alkaloids (vincristine, vinblastine, paclitaxel)	Nitrosoureas (BCNU, CCNU, methyl-CCNU)

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Cancer Angiogenesis



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Evaluasi Respons Tumor

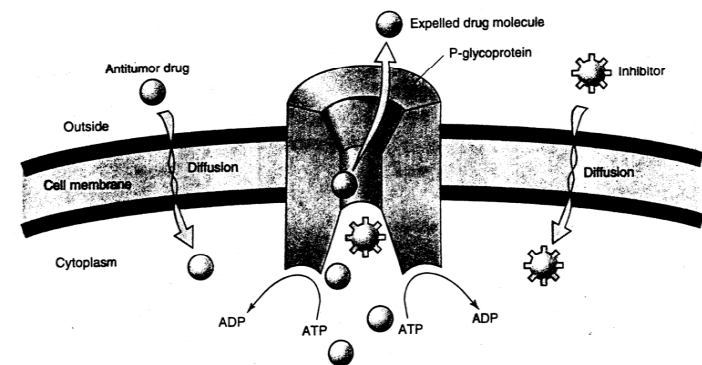
- **Ukuran tumor berkurang:**
pemeriksaan fisik, foto dada / sinar-x lainnya, prosedur pencitraan khusus seperti: *scanning* tulang (kanker payudara, prostat), CT scan, MRI, USG
- **Jumlah produk atau petanda tumor berkurang:**
paraprotein, gonadotropin korionik, seroid urine, 5-hydroxyindoleacetic acid, dan antigen spesifik-prostat (PSA), alphafetoprotein, CEA, CA125, CA 19-9
- **Normalisasi fungsi organ**
- **Kesejahteraan pasien (QoL):**
membaiknya nafsu makan, penambahan BB, membaiknya status performa → Karnovsky Scale, Eastern Cooperative Oncology Group Scale. **Untuk menentukan apakah paliasi bermakna.**

Keganasan yang merespons kemoterapi lihat Tabel 55.7 hal 334-5 (Katzung 2004)

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Multidrug Resistance in Cancer Cells



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Buatlah tabel klasifikasi
obat antikanker !

yang meliputi:

- Alkilasi polifungsional
- Antimetabolit
- Alkaloid tanaman
- Antibiotik
- Agen hormonal
- Lain-lain

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Bacaan lanjut

- Katzung BG ed.(2004). **Farmakologi Dasar & Klinik**, ed.8,
buku 3. Jakarta: Salemba Medika, hal.297-332.



Diskusi pada situs internet **FK Unair** di
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