

Antineoplastic drug 1

وكنه لتتيت

ساعل ما جالب فيه الدكتور
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ان شاء الله

Antimetabolite

مضاد

inhibition of DNA and RNA Synthesis

+ S phase (cell cycle specific)

A-Folic acid analogues

1-Methotratsat

Similar to (Folic acid analogue) $\rightarrow$ DHFR

inhibition purin Synthesis $\rightarrow$ inhibition DNA Synthesis

Folic acid $\xrightarrow[\text{DHFR}]{\text{enzyme}}$ tetrahydrofolic $\rightarrow$ purine
ما يتفرقة تكتون

MTX $\rightarrow$ PGs $\rightarrow$ thymidylat synthesis (inhibition de novo purin)

high dose $\rightarrow$ leucovorin for normal cell

* Small dose $\rightarrow$ in autoimmune diseases

* Resistant أكثر واحد ألو

وكتوب بالعلامات النقط

واللغات
دكتور بالعلامات
أقرأوهم إذا بكم
الدكتور ذكرهم

uses

* Acute lymphocytic

* Choriocarcinoma

* Burkitt

* Breast

* head and neck

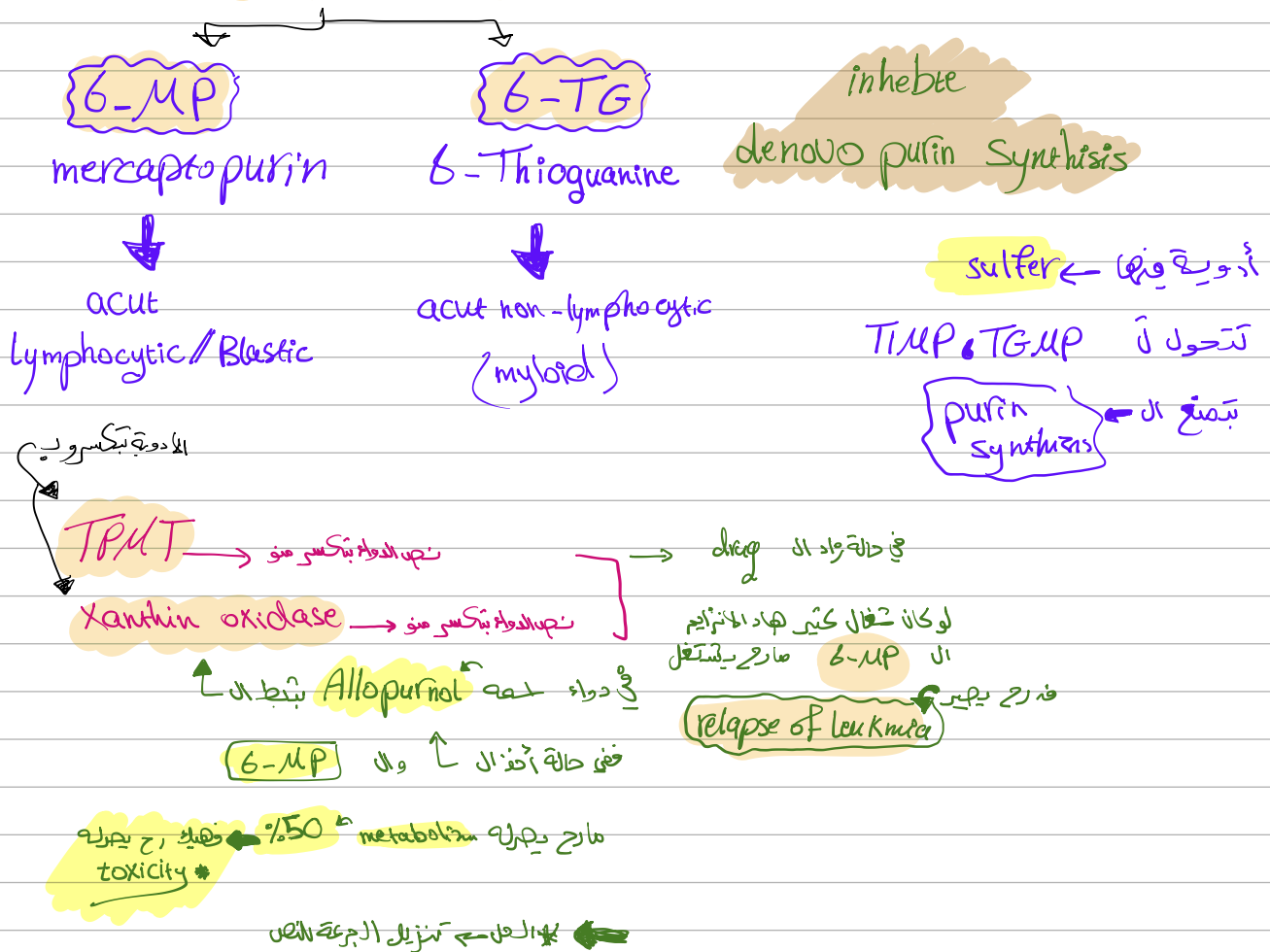
AEs

nephrotoxicity

$\rightarrow$ عن طريق الكلى
كميات غير من البقاء

alkalinization
+
monitoring
لازم يراقب في
plasma
 $\rightarrow$ to avoid toxicity
لمستواه في الدم

B-Purine analogues



C-Pyrimidine analogues

1) 5-fluorouracil (5-FU)

* (5-FU) inhibit RNA and DNA synthesis // ⁱⁿ nonspecific phase
تثبيط الـ DNA والـ RNA في أي مرحلة من المراحل

for Solid tumors =

* breast * colorectal
* pancreatic * gastric

ما في سرقة
سرطانة الدم

* Topical 5-FU



* Vitiligo

* basal cell carcinoma &

2) Cytarabine (Ara-c) دواء جديد

↓ DNA synthesis

((S phase)) specific

acute myeloid leukemia ((non-lymphocytic)) + ((myelogenous))

-AE of antimetabolite-

→ Myelosuppression / aplastic anemia

(1-2 weeks) ← toxicity ←
↓ شدة متغير
تعدل للشدة

puls courses (3-4) week → اصير لدمية بدل كل يوم يصير
كل شهر يافطة واكيد يكونه
حاسبة الجرعات

→ granulocytopenia

→ mucositis of GIT

→ Liver toxicity → hepatic fibrosis → 6-MP and long term methotrexate
من ممكن يصير هيك ؟
ري الي داه methotrexate
long term

-Antibiotics-

1) Dactinomycin

interact with DNA
* protein synthesis inhibitors

uses: ○

- * Wilms' tumor
- * melanoma
- * neuroblastoma
- * Ewing
- * Sarcoma
- * rhabdomyosarcoma

2) Anthracycline

Uncoiling of DNA
block RNA and DNA synthesis
Generate ROS

AE₈₀

- * transient BM suppression
- * cardiac toxicity ROS
congestive heart failure

شوائب

dexrazoxan

remove Iron

cardiac toxicity

3) Bleomycin

Fe^{+2} Fe^{+3}
O₂ → Fe^{+3}

* Free radical
* cleave DNA

- uses: ○
- head and neck cancer
- lymphoma
- testicular cancer

AE₂

pulmonary toxicity
fever, chills

mucocutaneous reaction (allergy)

-Alkylating agent-just for mid

7 nitrogen Group of Guanin

add alkyl group to DNA

↓

→ cross link (1) two DNA

→ mispairing G-G/G-A

→ destroy DNA

→ Cell cycle non specific

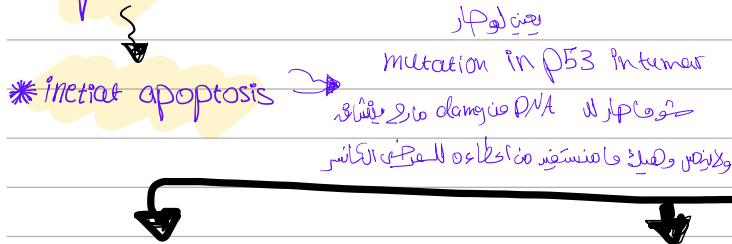
A) Nitrogen mustard

Bifunctional alkylator

→ 7 Nitrogen in guanine يرتبط في

→ cross link () DNA strand
DNA damage لا يفسد

p53! ميت بجز



1) cyclophosphamide 2) Melphalan 3) Chlorambucil

activation in liver by
cytochrome p450

active metabolite

acrolein

excreted in urine
تفرغ في البول

hemorrhagic cystitis
آفة شغلى حاد في

Mesna
another AE
BM suppression

use →
multiple myeloma

Slowly acting
Chronic lymphocytic leukemia

uses →

✓ blood tumor

* Breast and neuroblastoma

B- Nitrosoureas

Carbimustine Lomustine

for Brain tumor (BBB ✓)

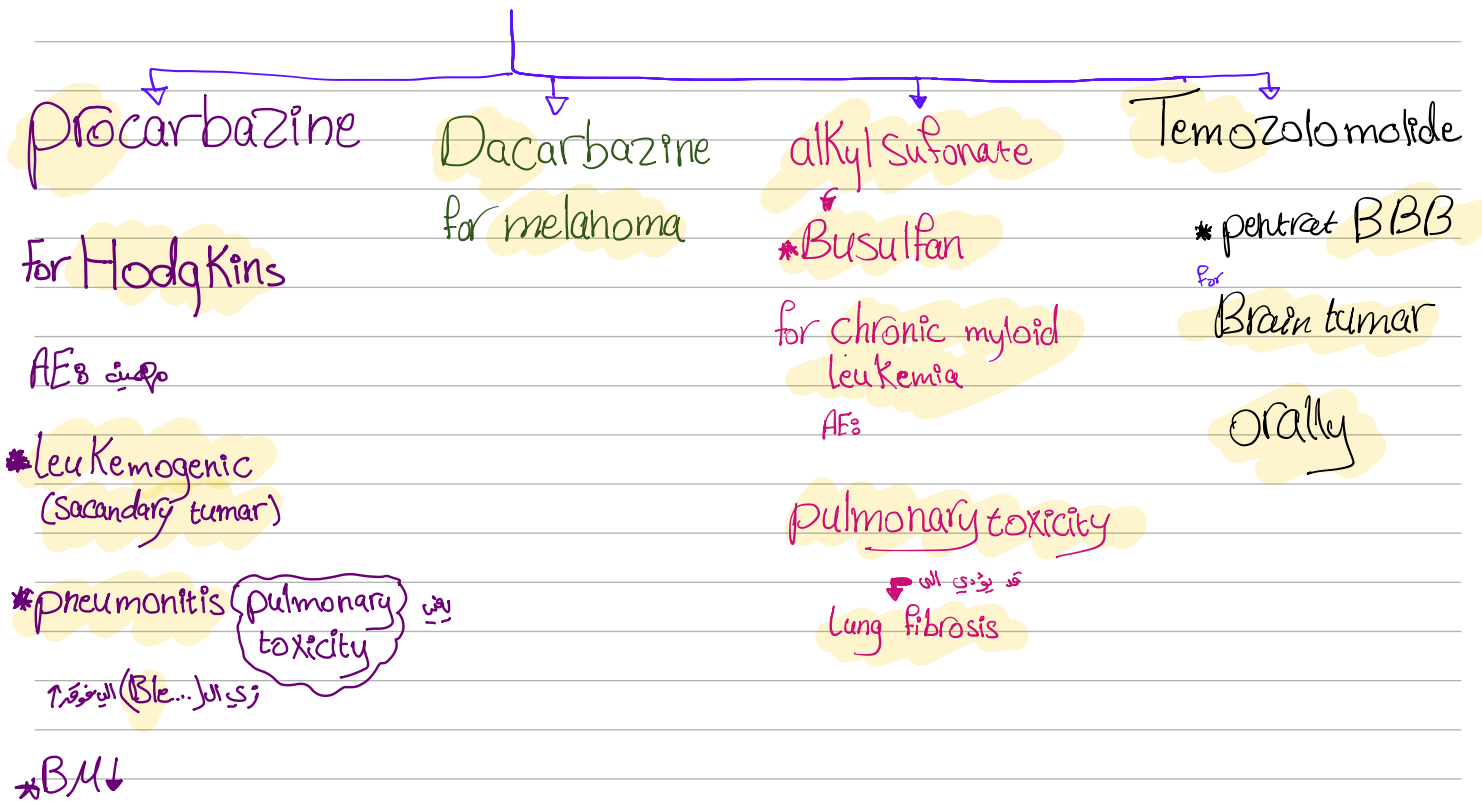
Streptozocin

DNA in B cell in
Islet of Langerhans
الخلايا البنكرياسية المنتجة للأنسولين

uses in pancreatic islet cell carcinoma

AE: nephrotoxic

C-Triazines



platinum compounds = منسحق فادح بال alkalizing

for Lung cancer • testicular • ovarian • bladder • esophagus

مذكور كثير اشياء بين أهمها



- 1) Which of the following agents used in drug combination regimens to treat testicular carcinoma is most likely to cause nephrotoxicity?
- a. Bleomycin.
 - b. Cisplatin.
 - c. Etoposide.
 - d. Leuprolide.
 - e. Vinblastine.

* الحمد لله

you must remember that!!



فِي أَدْوِيَةِ ذُكْرِتْ

لحتى تمنع toxicity دوية

فِي الْمَسَاحِرَةِ ← وهذه هي

