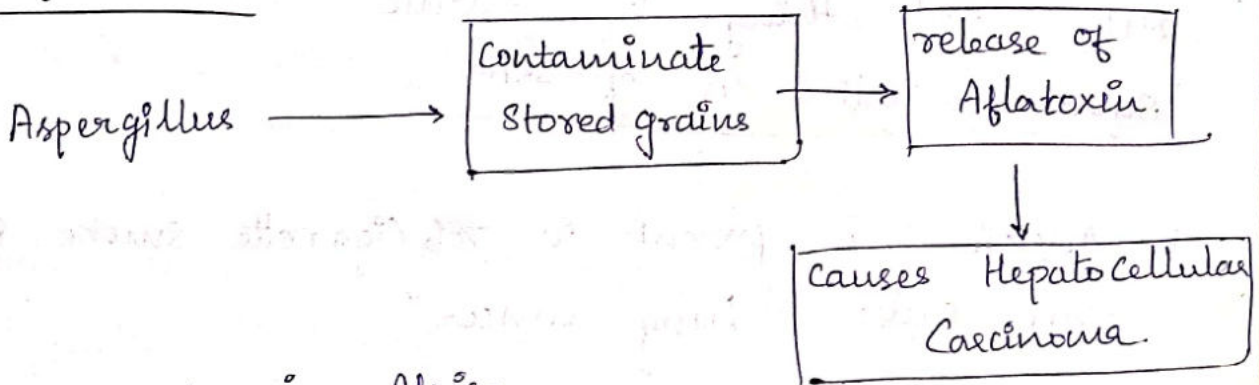


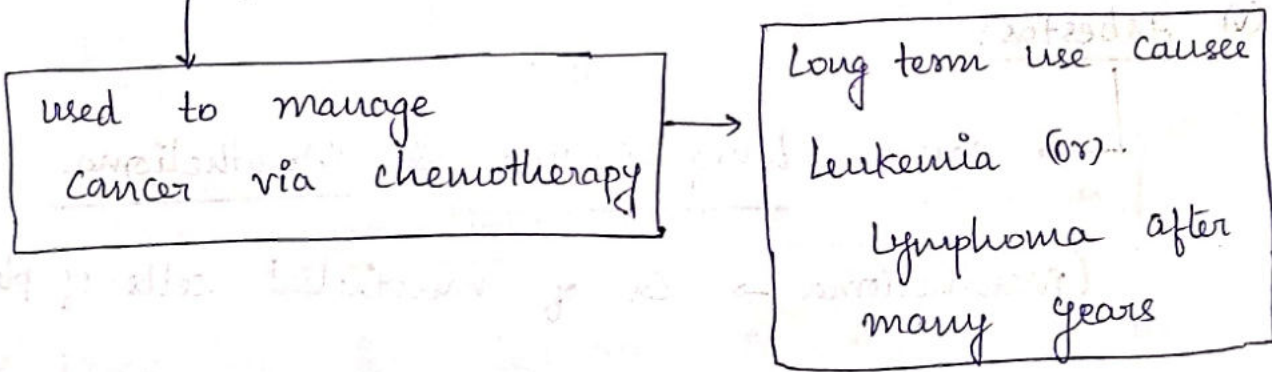
A) Chemicals:

(i) Aflatoxins:

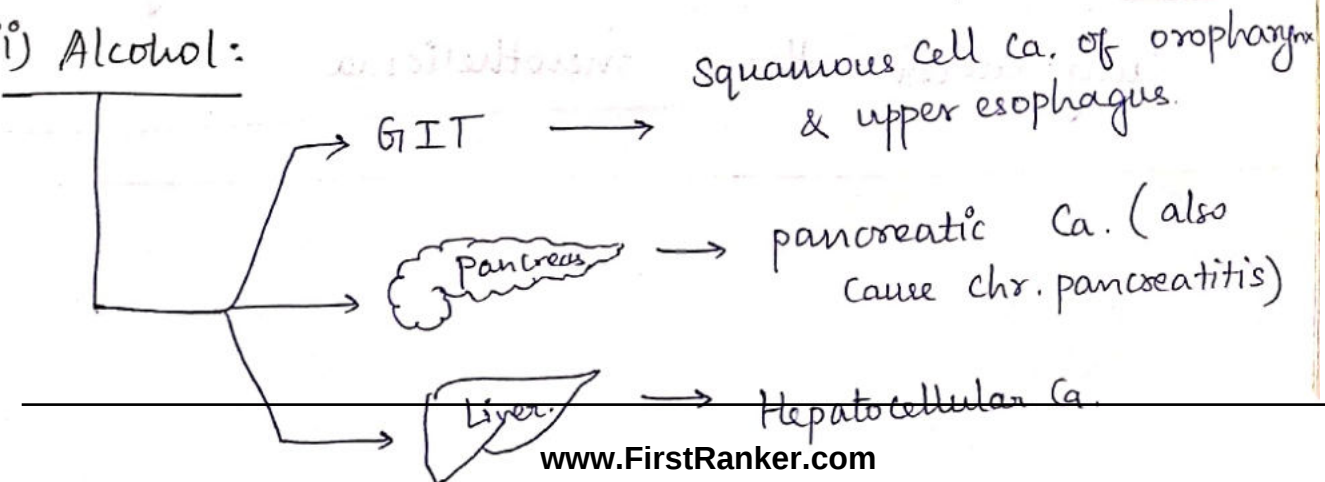


Note: m/c in Africa.

(ii) Alkylating agents:



(iii) Alcohol:



⇒ Tobacco & Alcohol.

iv) Arsenic:

* woman working in fields in England used to apply arsenic over the skin to whiten skin

but sad thing is Arsenic can cause
"Squamous cell Ca. of skin."

* Arsenic is present in ~~the~~ Cigarette smoke & can cause "Lung cancer."

* Also causes "Angiosarcoma of liver"

(v) Asbestos:

→ causes Lung cancer & Mesothelioma

(Mesothelioma → Ca. of mesothelial cells of pleura)

Note: Exposure to Asbestos more likely causes lung cancer than mesothelioma.

* Ca. of oropharynx, esophagus & lung.

* Ca. of kidney & Bladder.



* Carcinogens in smoke enter the blood & when they are filtered, they get conc. in urine & collecting portion of kidney.

* Thus Cigarette smoke is the m/c cause of Ca. of kidney & bladder.

* Also, 1B people smoke worldwide & the Polycyclic Hydrocarbons are particularly carcinogenic

(vii) Nitrosamines:

↓
found in smoked foods.

↓
Causes Intestinal type of Stomach Ca.

* Responsible for High rate of Stomach Ca in Japan.

(viii) Naphthylamine:

derived from cigar. smoke

Causes Urothelial Ca. of bladder

(ix) Vinyl chloride:

Causes Angiosarcoma of liver

* Vinyl chloride $\longrightarrow$ used to make PVC pipes.

* That's why, Angiosarcoma is common in person working in these places
(occupational exposure)

(x) Nickel, Chromium, Beryllium (or) Silica:

occupational exposure.

Causes lung Ca.

i) EBV :

* Causes "Nasopharyngeal Ca." → common in Chinese males & African descendant.
↓
quickly metastasize & form neck lump.

* Also causes Burkitt lymphoma. (Chap. 5).
& CNS lymphoma in AIDS.

ii) HHV -8 : (Human Herpes Virus - subtype ③)

↓ causes "Kaposi's sarcoma." → Tumor of endothelial cells.

* pt. presents c purplish raised lesions on skin.

* ③ subtype of pts who usually get this

(i) ^{old.} Eastern European male → Rx - surgical excision.

(ii) AIDS pt. → Rx - Antiretroviral Drugs.

↓
Boost immunity & destroy HHV-8.

(iii) Recipient of Transplant pts. → who have received immuno suppressants. → Rx → ↓ immuno suppressant drugs.

(iii) HBV and HCV : → Causes Hepato cellular Carcinoma

↓ ↓

DNA virus RNA virus.

(iv) HTLV - 1 :

* Human T-cell Leukemia Virus - 1 is
assoc. with adult T-cell Leukemia / Lymphoma
(WBC disorders...).

(v) High risk HPV → subtypes 16, 18, 31, 33

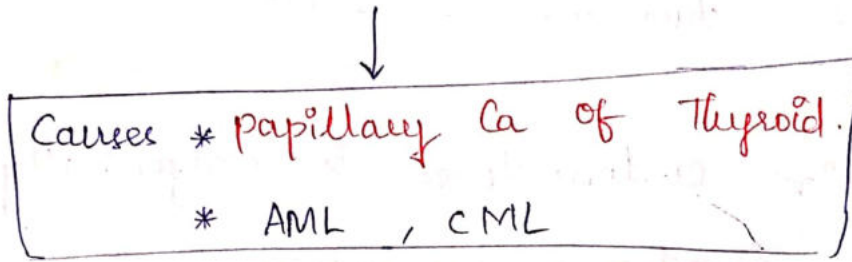
Squamous cell Ca. of

- (i) vulva
- (ii) vagina
- (iii) anus
- (iv) cervix.

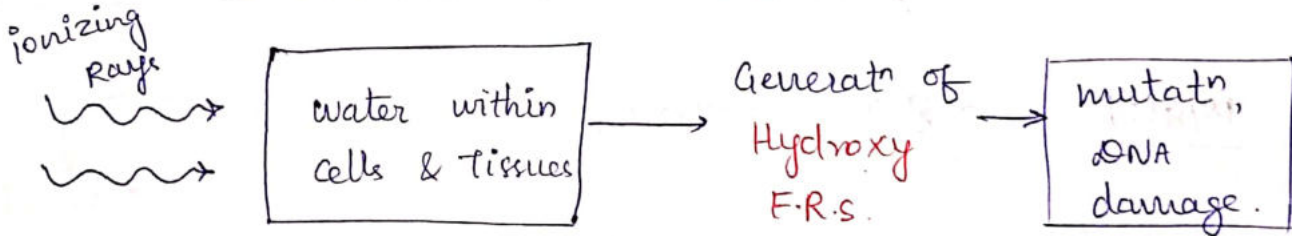
Adeno Carcinoma
of cervix.

(i) Ionizing Radiatn:

eg: Nuclear Reactor accidents & Radiotherapy.



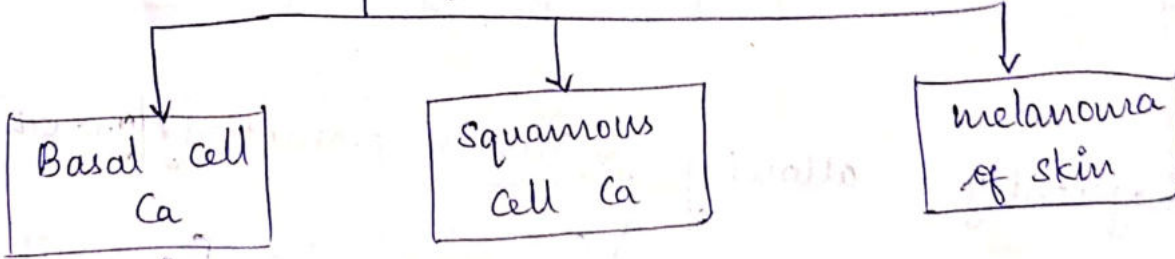
Mechanism:



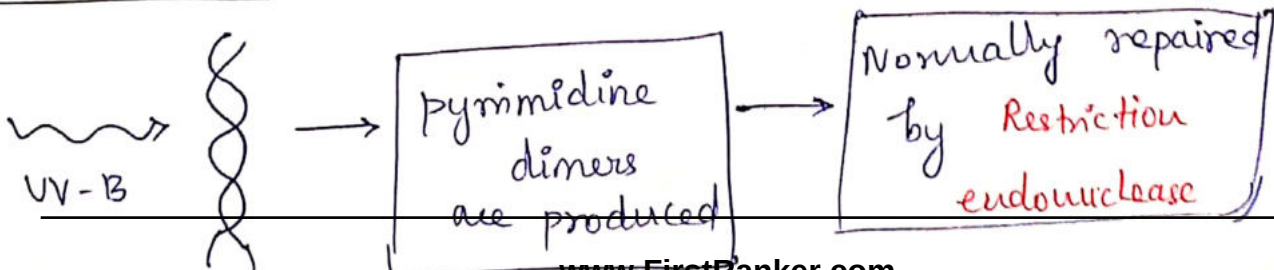
(ii) Non ionizing Radiatn:

eg: UV-B - sunlight (m/c source)

③ types of skin cancer



Mechanism:



Note: * Restriction endonuclease

pyrimidine dimers produced de

but if excessively^{ive} produced, it
repaired & skin cancer res

* Restriction endonuclease is
defective in "Xeroderma pigment