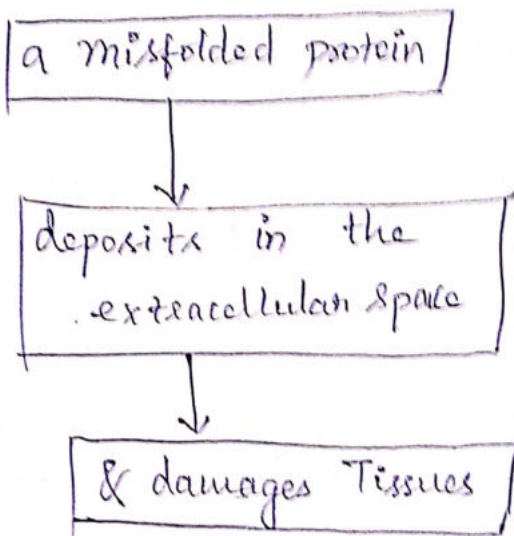
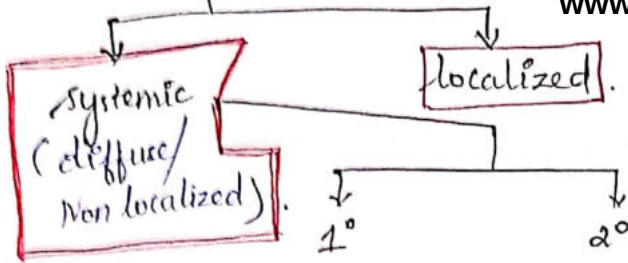


Amyloid:



Characteristics of Amyloid:

- (i) Multiple proteins can deposit as amyloid.
- (ii) β - pleated sheet Config. proteins m/c deposits as amyloid.
- (iii) Amyloid takes Congo red stain
- (iv) Has a Apple-green birefringence under polarized light.
- (v) Tends to deposit around blood v/s.



systemic - amyloid in more than ① systems.

① Systemic

(i) PRIMARY AMYLOIDOSIS

* systemic deposn of 'AL' amyloid.

* AL amyloid is derived from Ig - Light chain.

* Normally plasma cells produce equal amt of Heavy & light chains

But in plasma cell dyscrasia, light chains are excess. produced

light chain → misfolding of → AL amyloid

deposn of AL amyloid

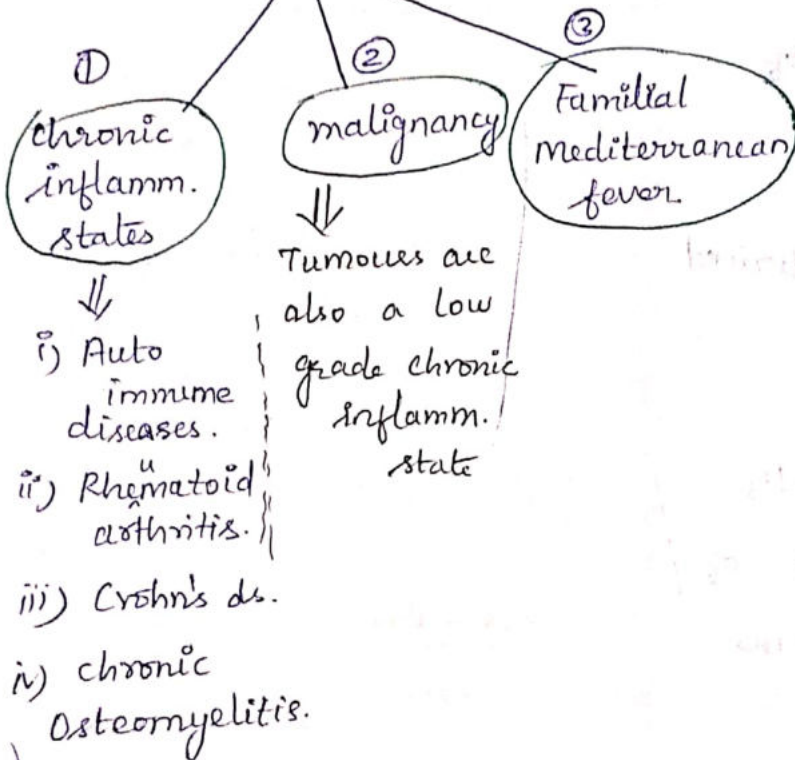
* systemic deposⁿ of

AA amyloid.

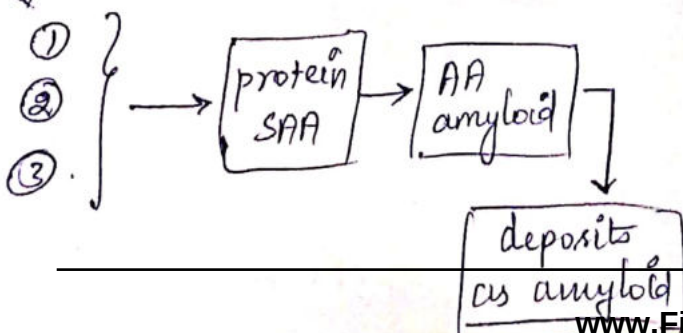
↓
derived from **protein SAA.**

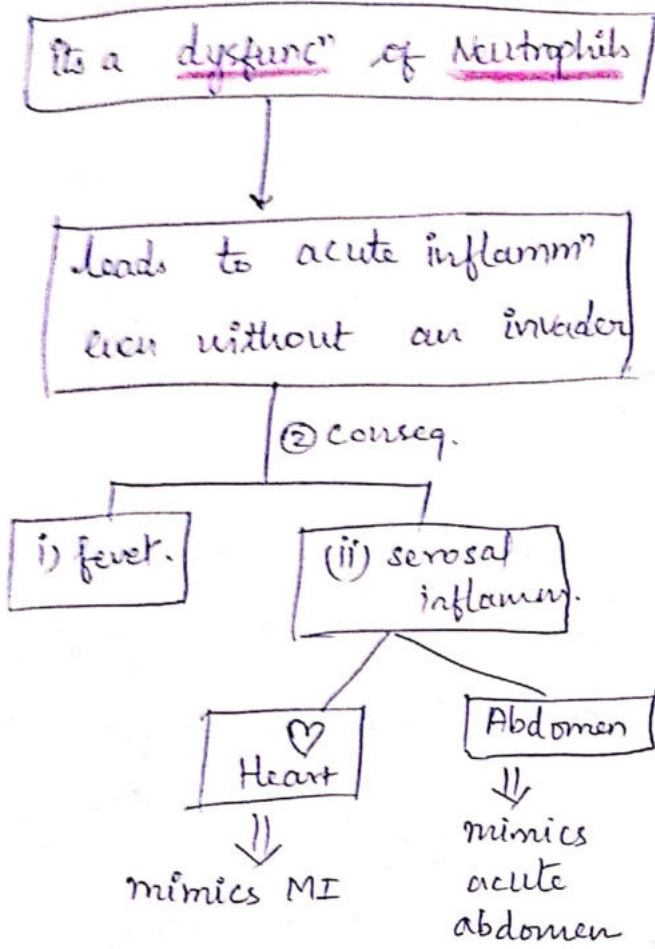
↓
SAA is an **Acute phase Reactant.**

protein SAA ↑ during



Note:



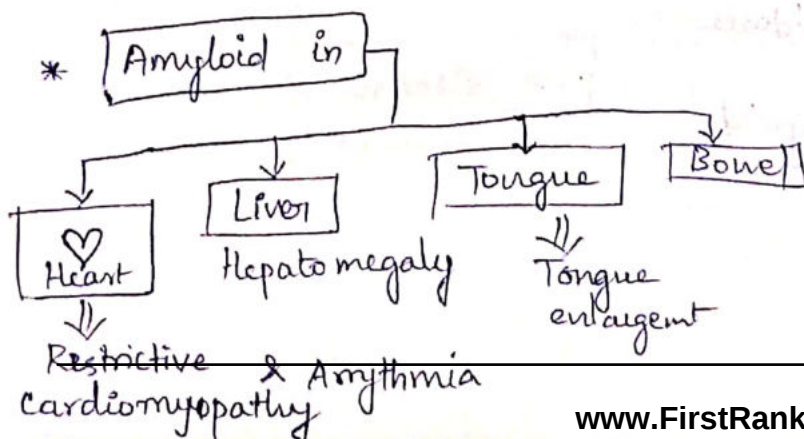


Classical findings of Amyloidosis

* m/c involved organ in Amyloid is  kidney.

↓ #

NEPHROTIC syndrome



* Tissue Biopsy → Congo Red stain

www.FirstRanker.com

* easily accessible targets

Abdominal fat pad
↓
Rectum
↓
Needle Aspiratⁿ
& view under Microscope.

Treatment

" TRANSPLANT "

is the only way

Why? Bcoz Amyloid can't be removed.

② Localised Amyloidosis

-----> single organ

examples:

①. Senile cardiac amyloidosis
(Vs.) Familial amyloid
Cardiomyopathy. } Tab Col.

②. NIDDM (Type ②).

③. Alzheimer's di.

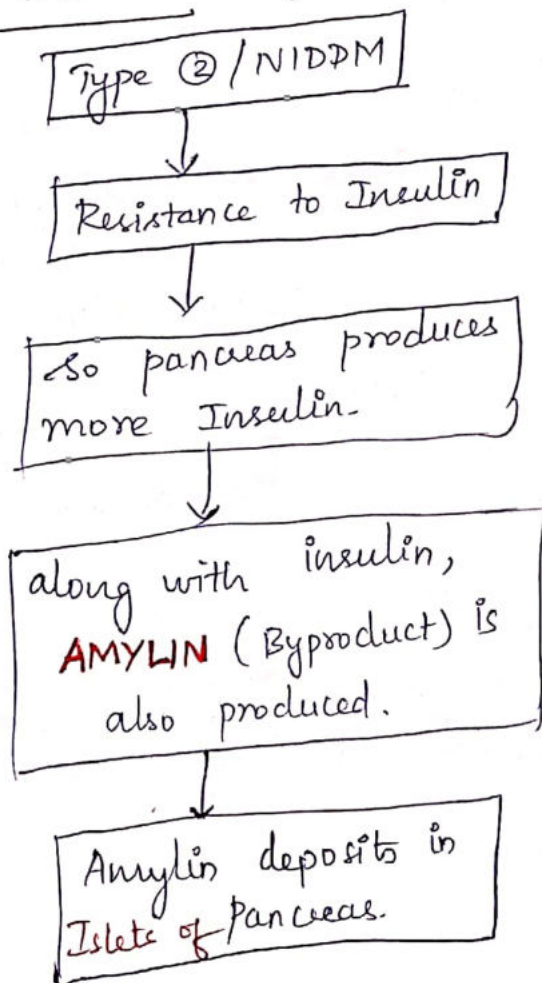
④. Dialysis assoc. amyloidosis.

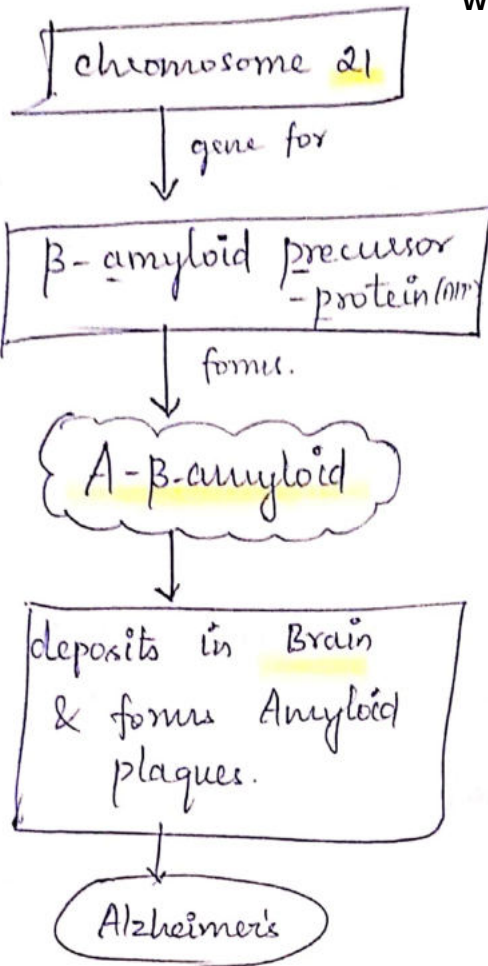
⑤. Medullary Ca of Thyroid.

* <u>Non mutated</u> serum Transthyretin deposits in ♥	<u>Mutated</u> Serum Transthyretin deposits in ♥
* Usually asymptomatic.	leads to Restrictive Cardiomyopathy
* present in 25% of people > 80 yrs of age	* In 5% of African Americans who (carry <u>mutated</u> gene)

Transthyretin - 2nd abundant plasma protein

② NIDDM (Type ②).





Note: ∵ chrom. (21) is also involved in ~~Alzheimer's~~ Down's syndrome

That's why Down's syn. pt suffer Alzheimer's earlier (@ age 40) itself than others.

④ Dialysis. associated Amyloidosis

- * it occurs in pts performing "Dialysis".
- * it deposits in "Joints"
- * Amyloid is β_2 -microglobulin.

* β_2 -MG is Not filtered during dialysis so.

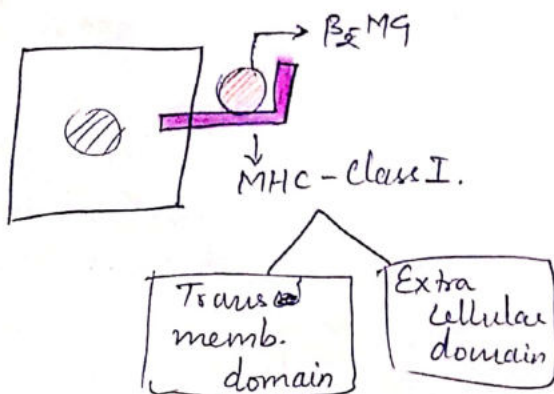
β_2 -MG builds up in blood.

Amyloidosis

What is β_2 -MG?

* all Nucleated cells ^{& platelets} express MHC-class I.

* β_2 -MG is the imp. molecules that provides structural domain for MHC-class I.



derived from C-cells.

Tumour of C-cells

overprodⁿ of Calcitonin

deposits in tumour

its like a tumor in
an Amorphous background.

↓
Diagnosis FNAC. - Fine Needle

Aspirate Cytology

↓
Tumor cells in Amorphous
backgrd. Seen by pathologist

— X — X —