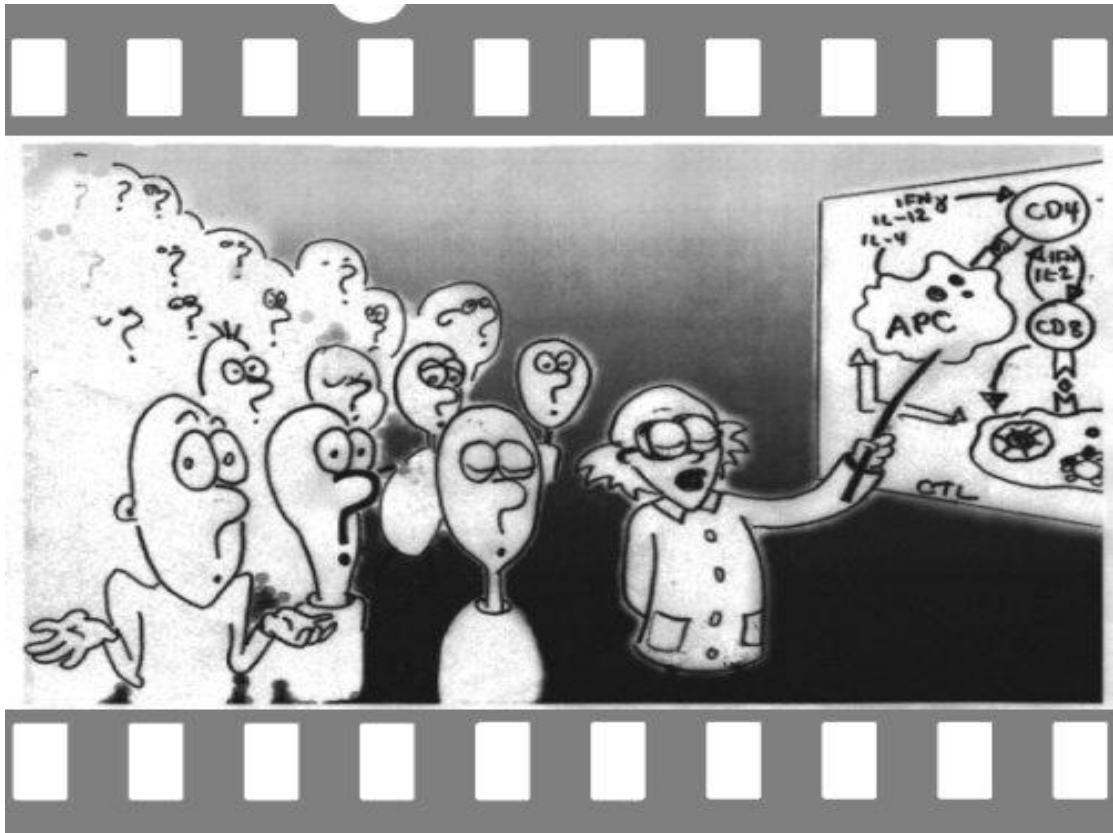


Immunology



Renal Block Transplantation

Ibrahim²

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©

☹ These are the notes said in the lecture but not found in the slides. Study them with the slides to be in the safe side.

* Special thanks to: Abdullah Aleisa

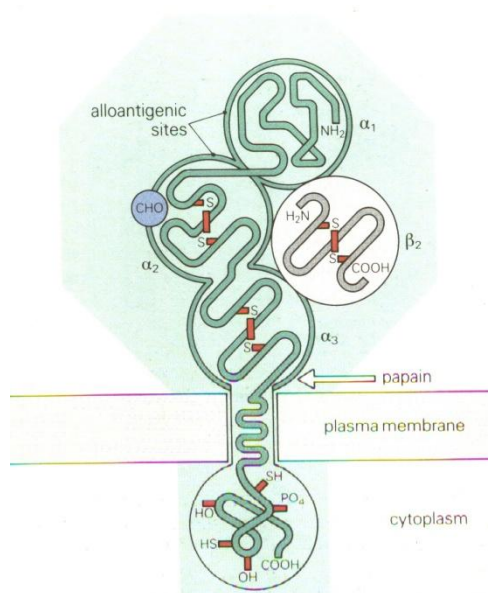
- Most renal disorders fate is end-stage kidney disease which requires kidney transplantation.

HLA complex:

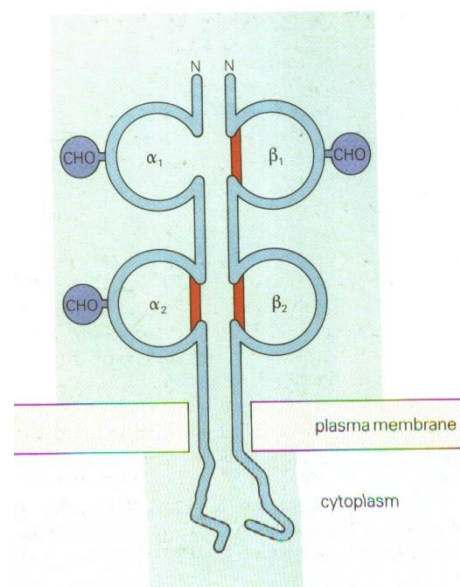
- **MHC-Class I** → is encoded by the genes **HLA - A , HLA - B , HLA - C**
- **MHC Class II** → is encoded by the genes **HLA - DP , HLA - DQ , HLA - DR**

MHC class II matching in the lab is critical for graft survival.

- Both MHC Class I & Class II Are composed of α & β chain, the only difference between class I & II is that α chain is longer in class I, but in class II α & β chains are equal in length.



Class I :



Class II :

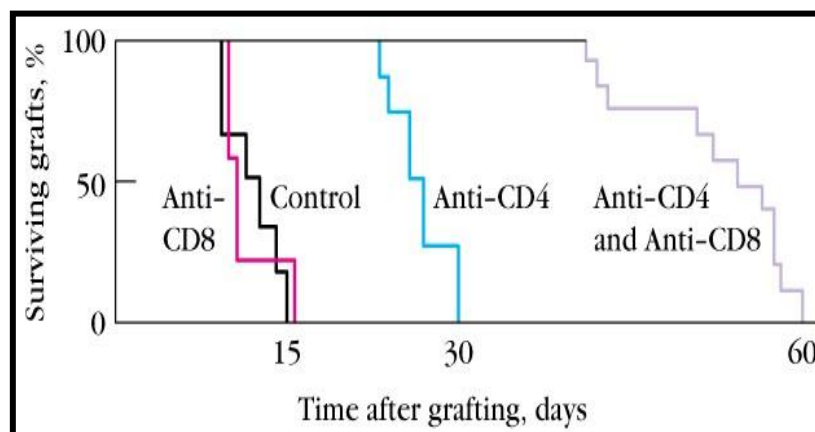
Function of MHC:

- 1- Present antigens to immune system.
- 2- To reject transplanted organs if the donor was not a match.

1st & 2nd set of rejection:

1st set rejection may take 7-10 days but if the transplant done again, the rejection will occur in 5-6 days " 2nd set rejection"

- Splenic T cells play a major role in 2nd set rejection, and that is because of memory cells.

Role of CD4 vs. CD8 T cells:

If you destroy CD8 cells the patient will die in 15 days, and if you remove CD4 the patient could live longer and dies in 30 days, and if you remove both CD4 & CD8 cells the time of survival is longer and it might reach 60 days.

=> CD4 is playing more role in rejection than CD8, because when Anti-CD4 was used the days of survival increased to 30 days.

- **Rejection reactions:**

1-hyperacute: very quick second to minutes,
mediated **by** pre-existing antibodies (already made)

2-acute: 7-14 days, **by** CMI

3-chronic rejections: Month to years

linked to minor histocompatibility antigens but yet not fully understood.