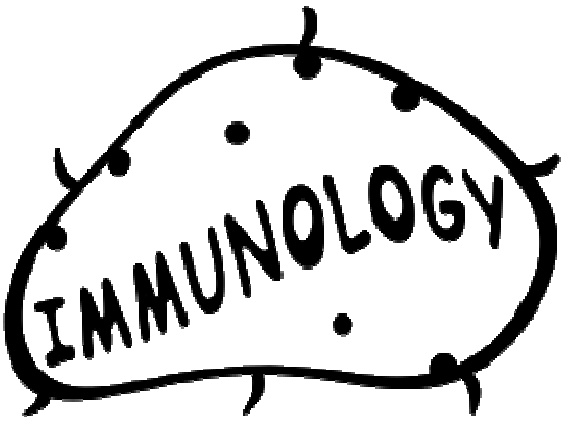
IMMUNOLOGY

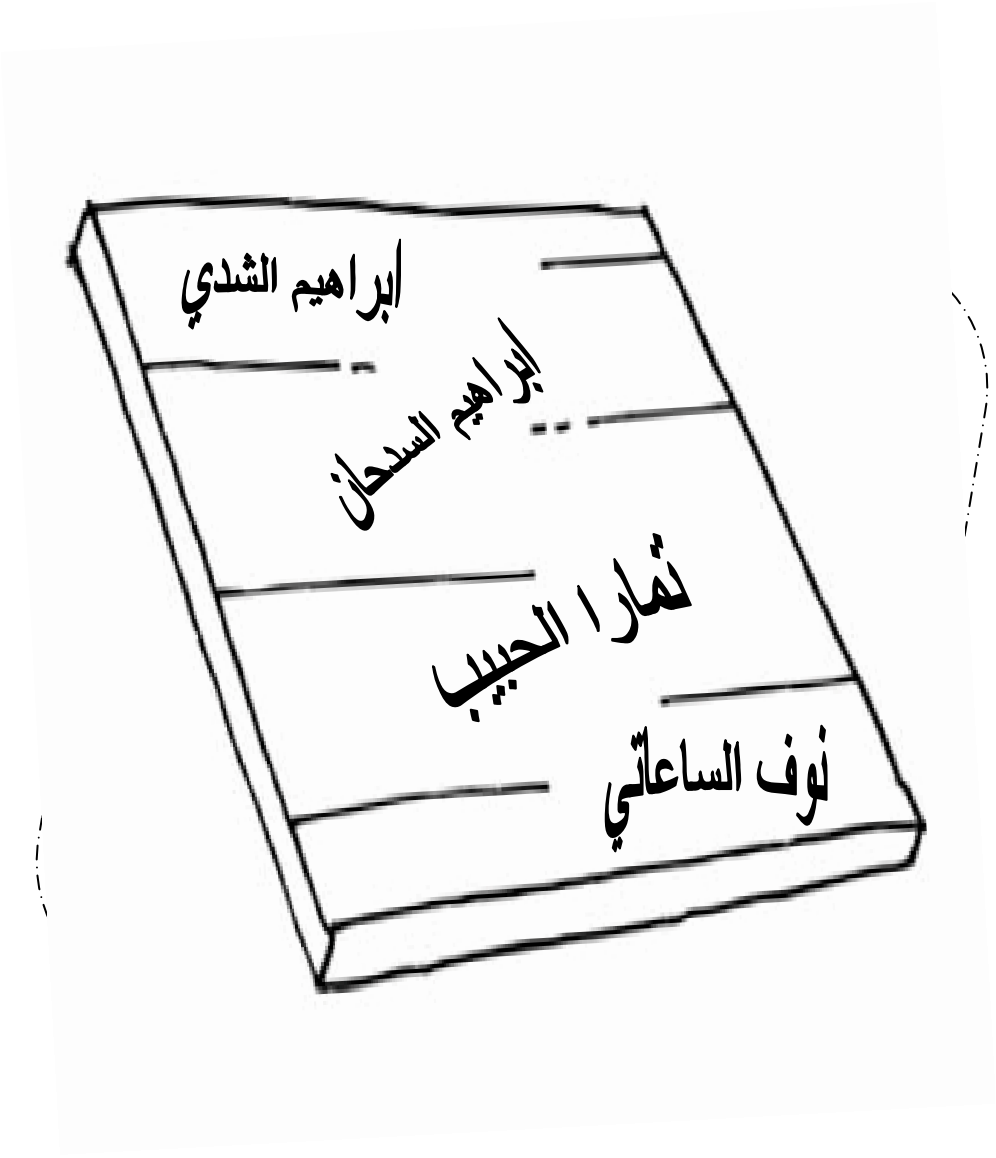
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Table for differentiation between The four types of hyper sensitivity

Types of hyper sensitivities	I (immediate)	ii (cytotoxic)	iii (immune-complex)	Iv (delayed)
Mediated by	Antibodies	Antibodies	Antibodies	Cell mediated
Type of antibodies	IgE	IgG	IgG & IgM	----------
Time needed for occurrence	Minutes after exposure	4-8 hours to days	4-8 hours to days	2-4 days (delayed)
Sources of antigens	Termed allergens (could be inhaled or ingeseted)	a-endogenous((self antigens)) b-exogenous	Soluble antigens: a-self antigens b-microbial antigens c-tumor antigens d- chemical haptens	Chemical antigens
Clinical examples	*Bee sting allergens *Anaphylactoid reactions	Mainly autoimmune diseases. e.g. *Glomerulonephritis anti-GBM *Incompatible blood transfusion (ABO) -(massive intravascular hemolysis of RBC) * Hemolytic disease of the new - born (HDN)	Mainly autoimmune diseases. e.g. *Glomerulonephritis *Autoimmunedisease, (self – antigens) *Chronic infections, (microbial antigens) * Cancer, (tumor antigens) * Drug reactions, (chemical haptens)	1. Chronic infection: - T.B. - leprosy - fungal infections -parasitic infections 2. Contact dermatitis
Diagnosis	1. Skin prick test 2. Intra-dermal test 3. Specific IgE measurement (RAST) 4. Challenge test (Nasal, Bronchial) 5. Elimination / Provocation test (Food allergy) -ELISA	- Detection of antibodies and antigens by Immunofluoresence in tissue biopsy specimens -ELISA	Immunofluoresence & ELISA	1. Delayed skin test 2. Patch test 3. Lymphocyte transformation test 4-ELISA