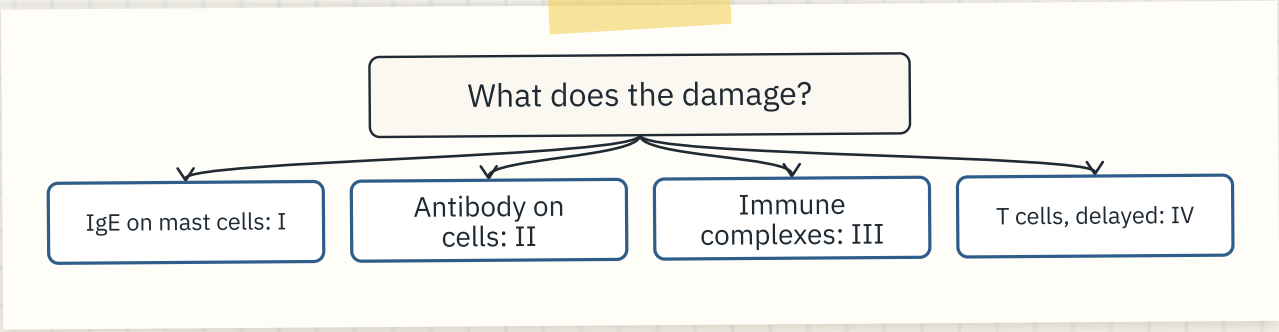
Hypersensitivity types I to IV

Name the effector, then check the timing



Step by step

1. Name the effector first: IgE, IgG or IgM, immune complexes, or T cells.
2. IgE on mast cells, within seconds to minutes: type I.
3. IgG or IgM against cell or matrix antigens: type II; immune complexes: type III.
4. No antibody and a peak at 48–72 hours: type IV.

Type	Effector	Timing
I	IgE on mast cells	Seconds to minutes
II	IgG or IgM on cells or matrix	Hours (transfusion); chronic (autoimmune)
III	Immune complexes	Hours (Arthus); 1–2 weeks (serum sickness)
IV	T cells, no antibody	Peaks 48–72 hours

Gell and Coombs: effector and timing

ACID

Anaphylactic: type I
Cytotoxic: type II
Immune complex: type III
Delayed: type IV

Exam traps

- Serum sickness is type III, not type I: it takes one to two weeks.
- Cytotoxic T cell killing is type IV, with no antibody.
- Graves disease and myasthenia gravis are antibody effects on a receptor: stimulating and blocking.

Hypersensitivity types I to IV: the four effectors

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/immunology/hypersensitivity-types-i-to-iv

For exam study only, not medical advice. Follow local guidelines and your lab's ranges.
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