

Hypersensitivity Reactions

Presentation by :

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A decorative graphic in the top left corner consisting of a network of dark blue circles of varying sizes connected by thin lines, resembling a molecular or network structure.

Hypersensitivity

Hypersensitivity refers to undesirable reactions produced by the normal immune system, including allergies and autoimmunity.

These reactions may be damaging, uncomfortable, or occasionally fatal.

A decorative graphic in the bottom right corner consisting of a network of dark blue circles of varying sizes connected by thin lines, resembling a molecular or network structure.

Differentiate between immediate and delayed hypersensitivity reactions

Properties	Immediate	Delayed
Time of manifest	Minutes to hours	Days
Mediators	Antibodies	T cells
Route of sensitization	Any route	Intradermal
Passive transfer with serum	Possible	Not possible
Desensitization	Easy but short lived	Difficult but long lasting

Common symptoms of hypersensitivity

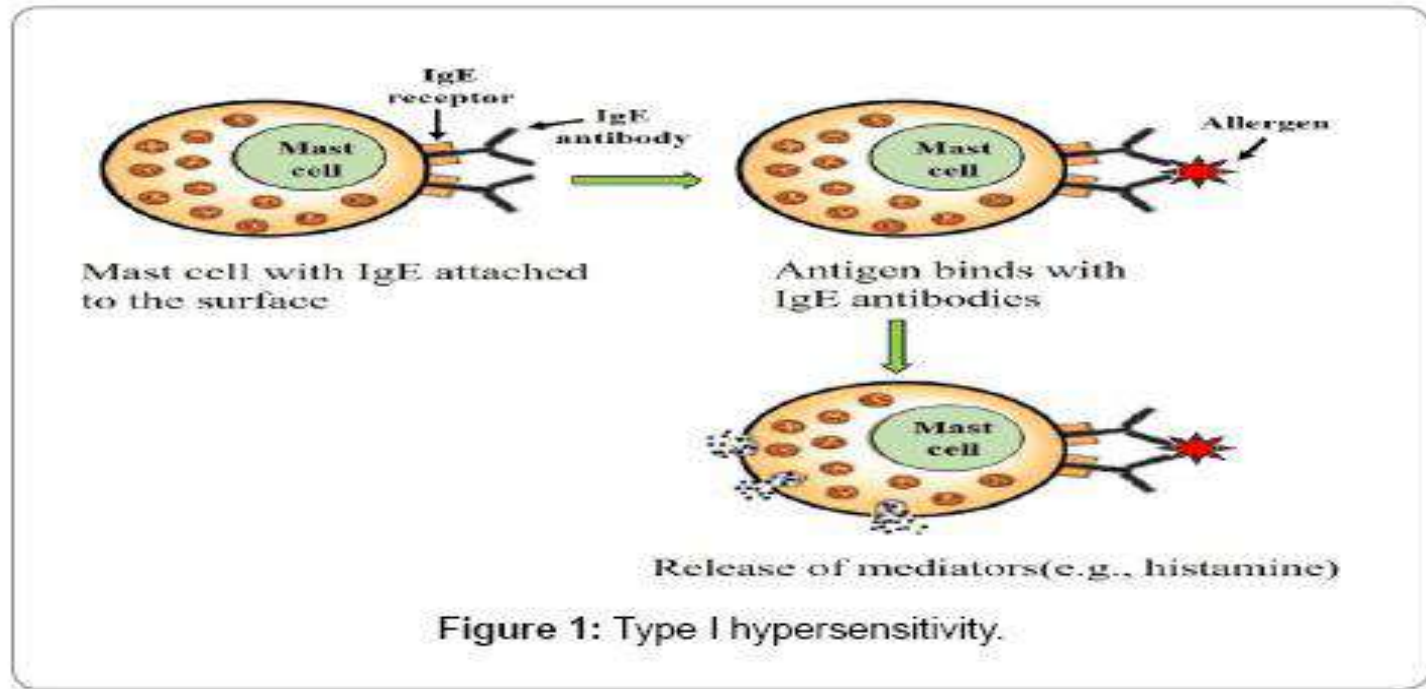
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1. Fever
2. Skin rashes and itching
3. Swelling and redness
4. Fatigue
5. Cough
6. Headache
7. Burning and dry skin

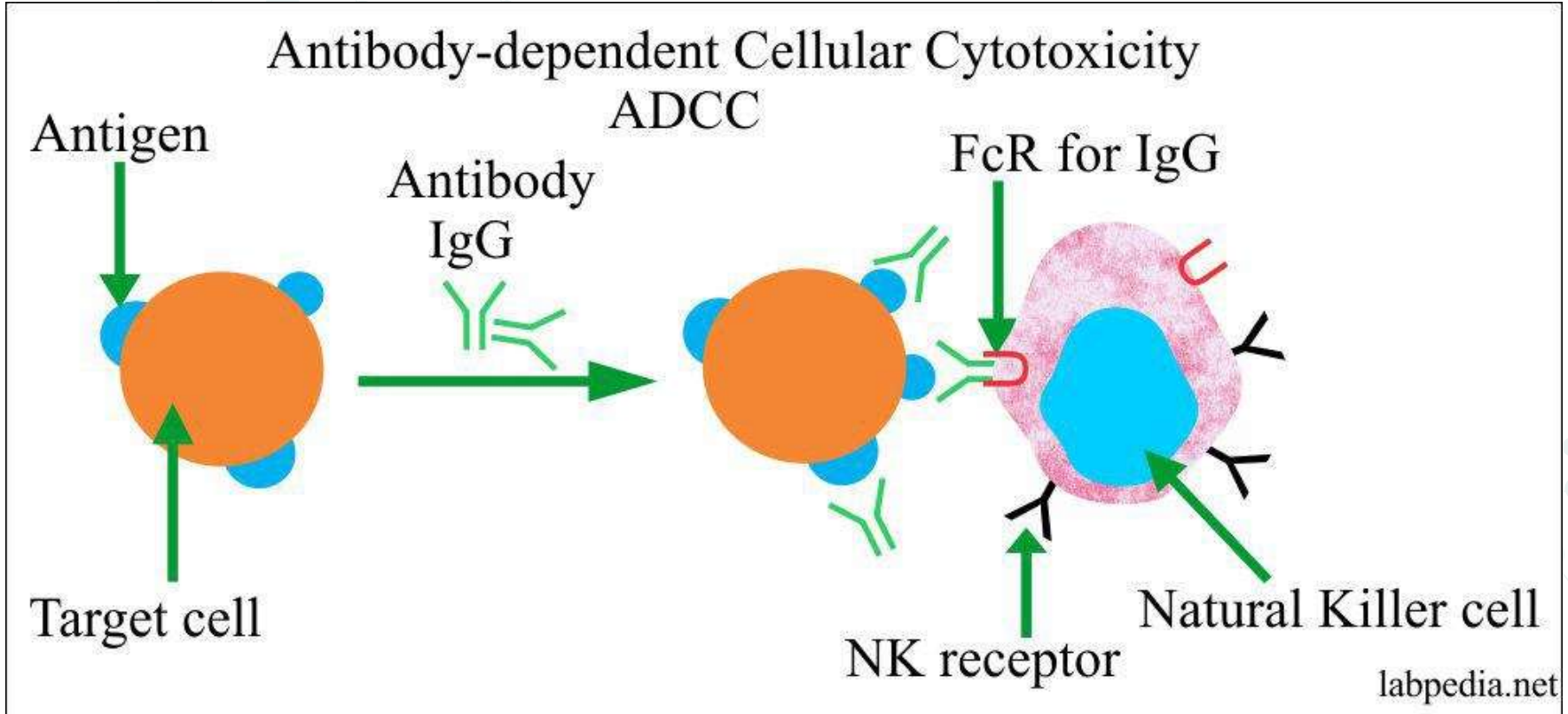


Types of hypersensitivity

Type I (IgE - mediated) : the antigen binds to specific IgE on the mast cell surface triggering the release of histamine and other inflammatory mediators.



Type II (cytotoxic) : specific of IgG or IgM which attacks cells that bind to the antigen / hapten.



Type III (immune complex) : deposition of antigen- antibody complex in the tissue triggering activation of the complement system and information.

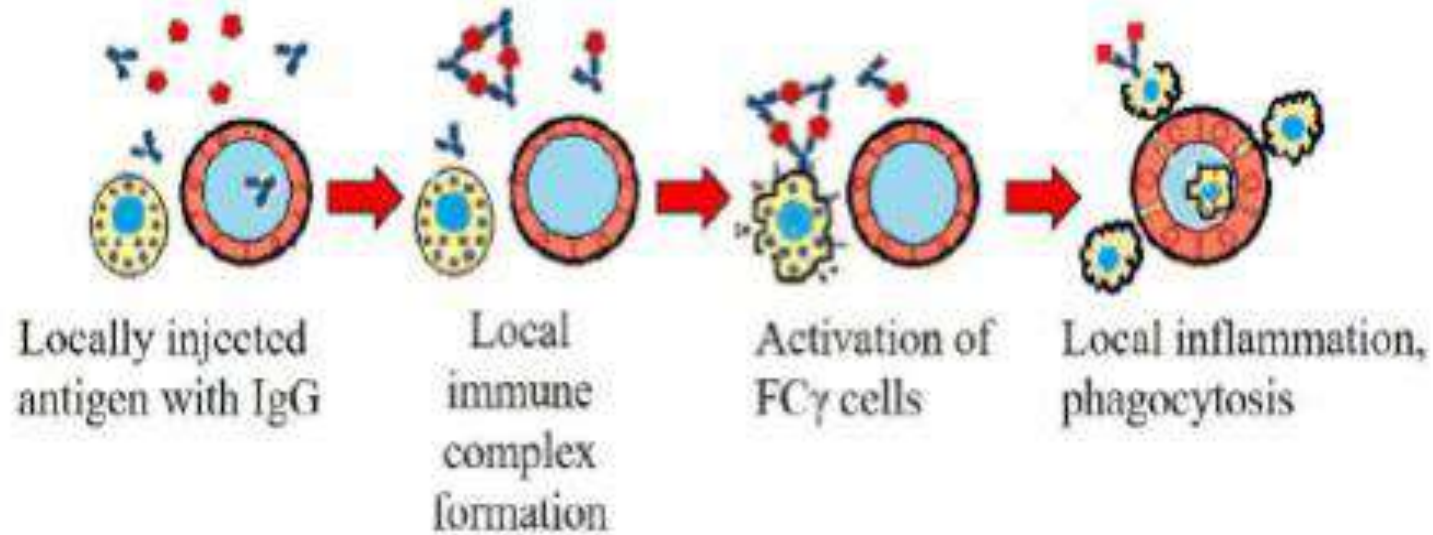
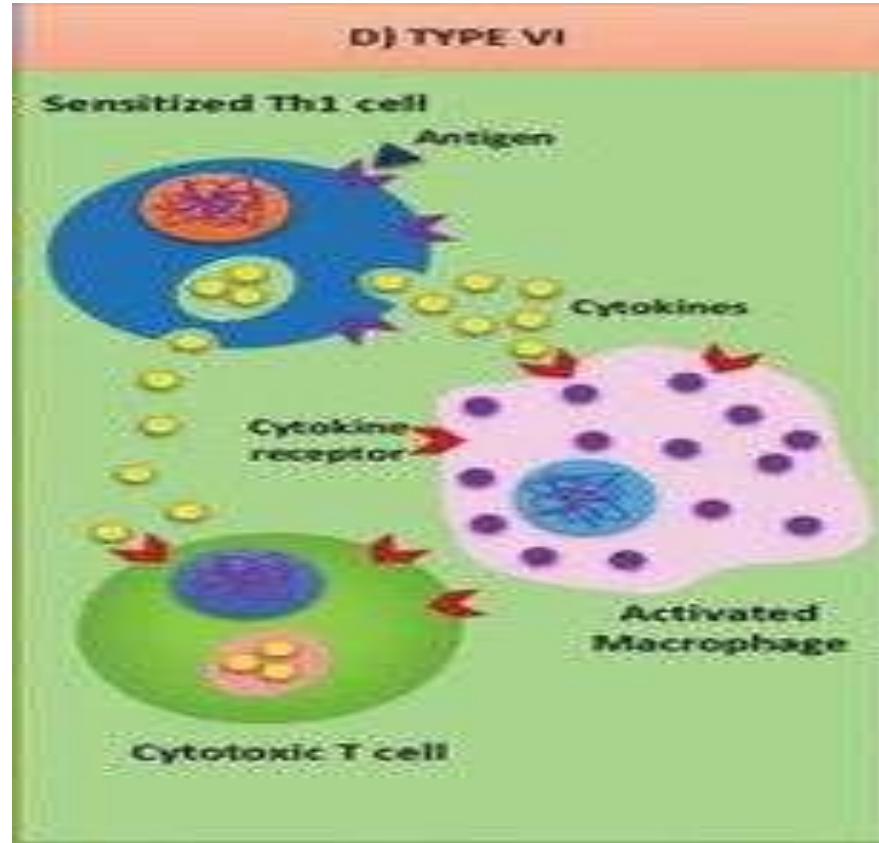


Figure 3: Type III hypersensitivity.

Type VI (delayed , cell - mediated) presentation of antigen molecules via MHC to T lymphocytes triggering the release of cytokines and inflammatory mediators.



Summary

Hypersensitivity is defined as an exaggerated or inappropriate state of normal immune response with onset of adverse effects on the body.

Type I: Anaphylactic (Atopic) reaction

Type II: Cytotoxic (Cytolytic) reaction

Type III: Immune complex mediated (Arthus) reaction

Type IV: Delayed hypersensitivity (Cell-Mediated) reaction

IMMEDIATE TYPE: Immediate type in which on administration of antigen, the reaction occurs immediately (within minutes to hours).

DELAYED TYPE: Delayed type in which the reaction is slower in onset and develops within 24-48 hrs and the effect is prolonged.

Symptoms of hypersensitivity such as fever, swelling and itching

References

<https://www.healthline.com/health/hypersensitivity-syndrome#symptoms>

<https://www.slideshare.net/SoujanyaThippabathin/hypersensitivity-reactions-187086471>

micsonline.org/open-access/hypersensitivity-an-overview-105371.html?fbclid=IwAR0ZW3Hu2hcbytl9COM-aqoTT2HwlpCT0o8KUvg3wJ-jeY EaDI tDEyMxc4w

https://www.slideshare.net/VELSPHARMD/hypersensitivity-24449005?fbclid=IwAR3BXaunuOj1Tb0IEiu7zY09gZL9b4nct9gXzzxFXsmvVY5TXb9AI_s41Xk

https://www.intechopen.com/chapters/60540?fbclid=IwAR1eQqRuJUUiLVdgn7_BBR4bXtFzbcii_Lb0a876hT-R3Cb-XcVHziMkUMc



Thank you for
listening

