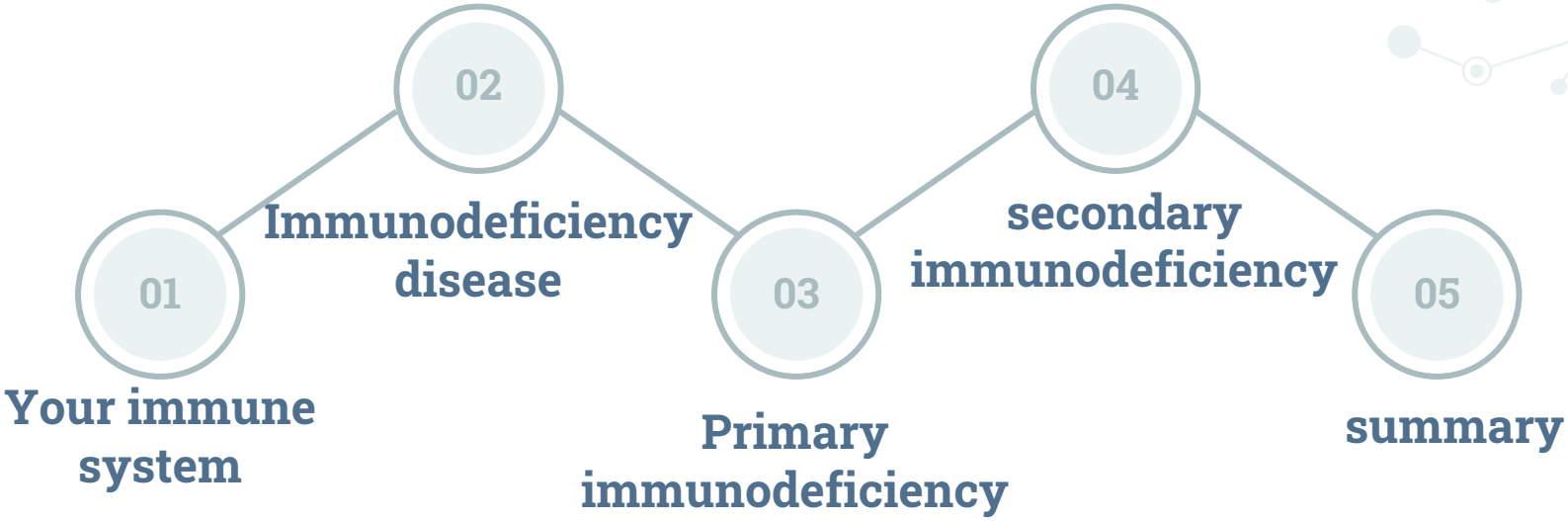
Libyan International Medical University

Faculty of Pharmacy

Immunodeficiency Diseases

By the second year students
Retaj.Alhasy 2470
Safa.abdulla 2426
Almonther.ateg 2472

2020-2021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Your immune system
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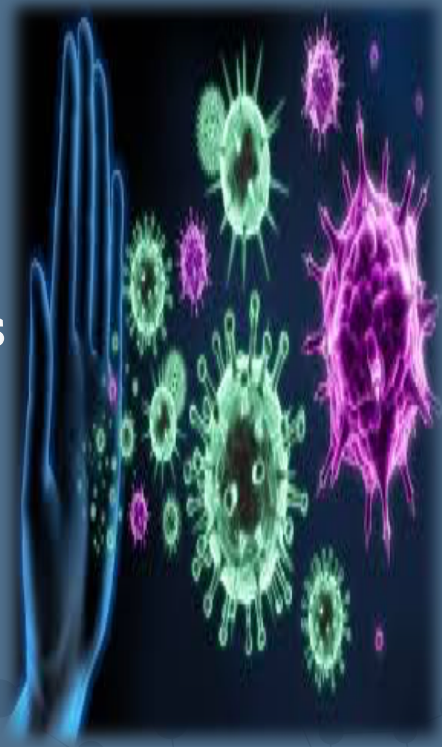
summary

Introduction

The immune system is a complex network of cells and proteins that defends the body against infection.

The immune system keeps a record of every germ it has ever defeated so it can recognise and destroy the microbe quickly if it enters the body again.

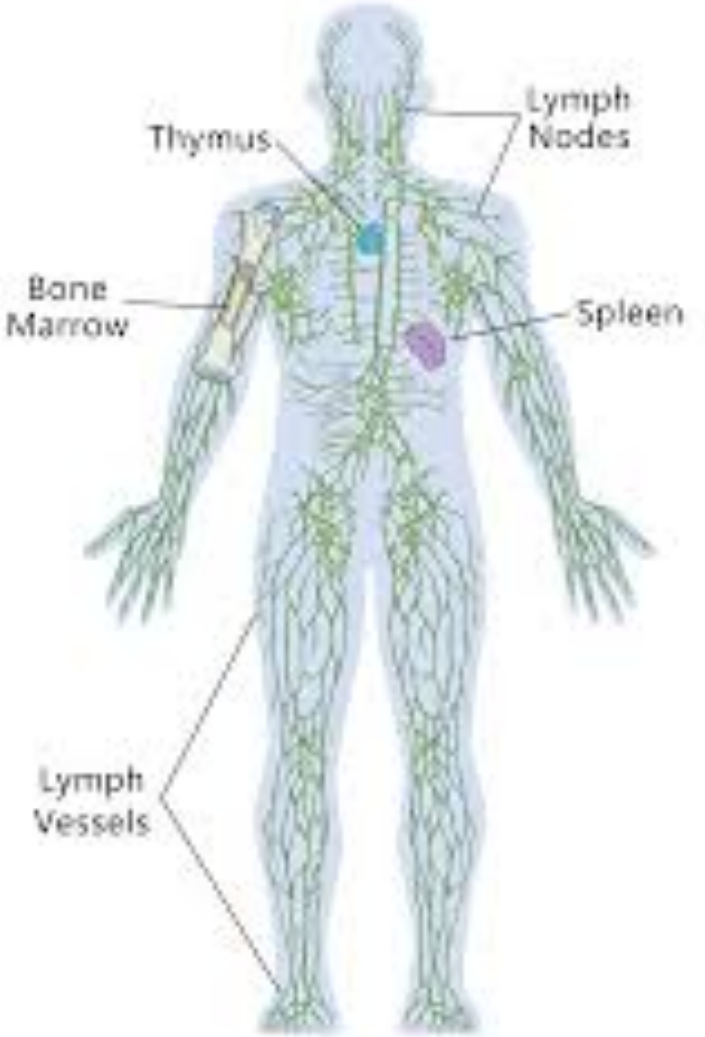
Abnormalities of the immune system can lead to immunodeficiencies and autoimmune disorders.



Your immune system includes:

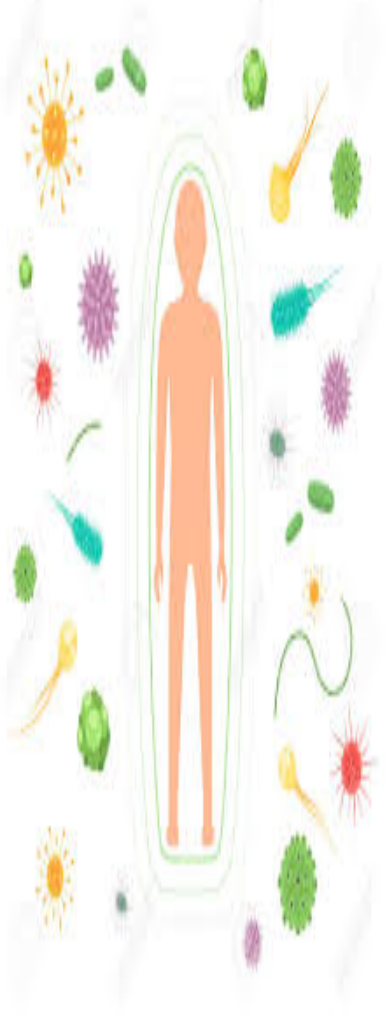
These organs make and release lymphocytes.

classified as B and T cells. They fight invaders called antigens. B cells release antibodies specific to the disease your body detects. T cells destroy foreign or abnormal cells.

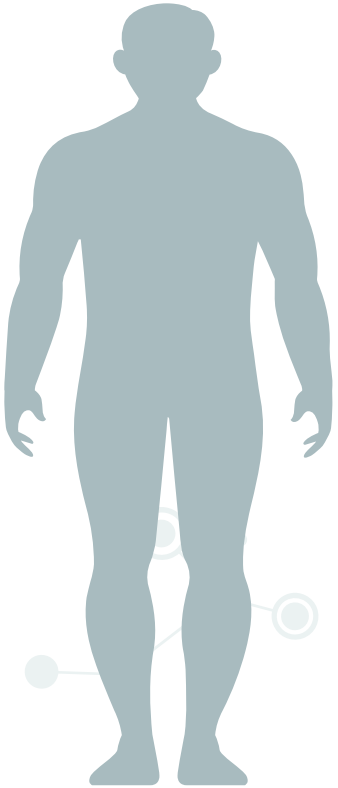


Immunodeficiency disease

- prevent your body from fighting infections and diseases. This type of disorder makes it easier for you to catch viruses and bacterial infections.
- Immunodeficiency can be caused by inherited syndromes, infections, drugs, medical conditions, pregnancy, ageing and many other factors. The severity varies leading to different types of infection. It can occur at multiple points across the immune response.



Immunodeficiency disorders are either congenital or acquired

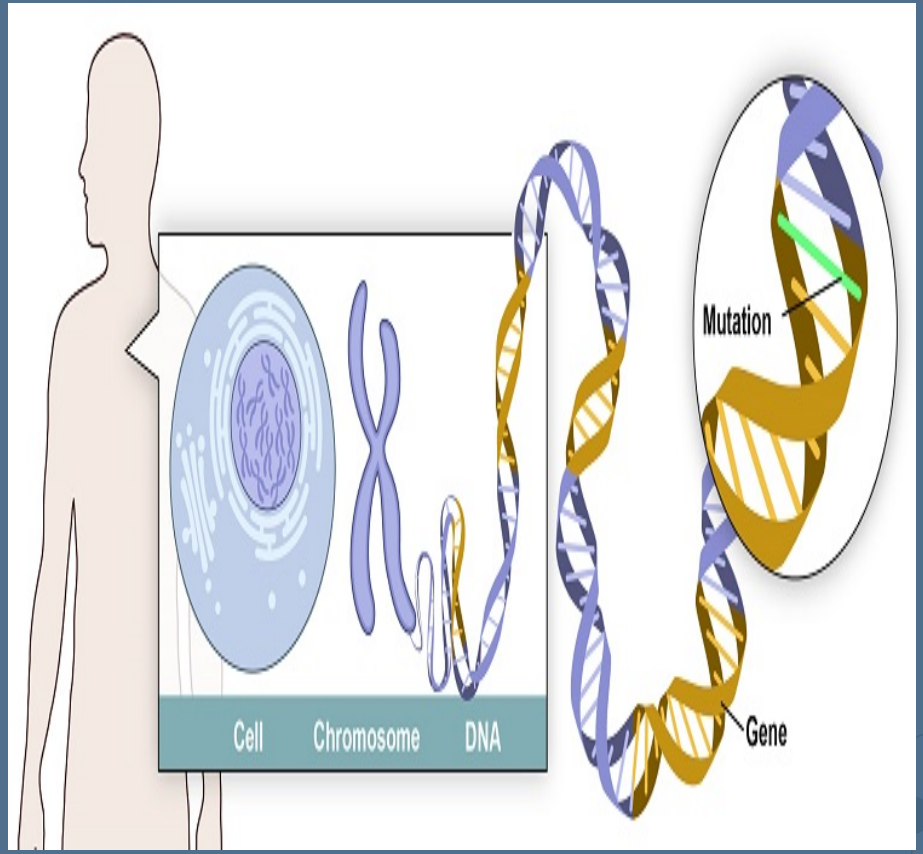


01 Primary immunodeficiency disorder

02 secondary immunodeficiency disorder

Primary immunodeficiency disorder

- are present from birth and persist lifelong. They are due to uncommon or rare genetic defects, and there is often a family history of the condition.
- PIDD are associated with acute or recurrent infections.



PIDD are classified by the main component of the immune system that is deficient, absent, or defective:

1) Cellular immunity deficiencies:

Cellular immunity deficiencies (T-cell defects) account for about 10% of primary immunodeficiencies and predispose to infection by viruses, fungi.

2) Combined humoral and cellular immunity deficiencies:

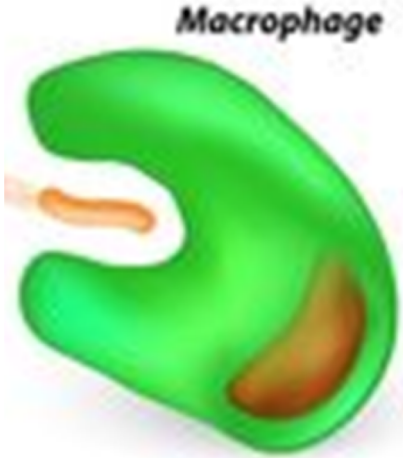
(B- and T-cell defects) account for about 20% of primary immunodeficiencies .

3) Complement deficiencies:

Complement deficiencies are rare (≤ 2%); they include isolated deficiencies of complement components or inhibitors and may be hereditary or acquired Hereditary

4) Phagocytic cell defects:

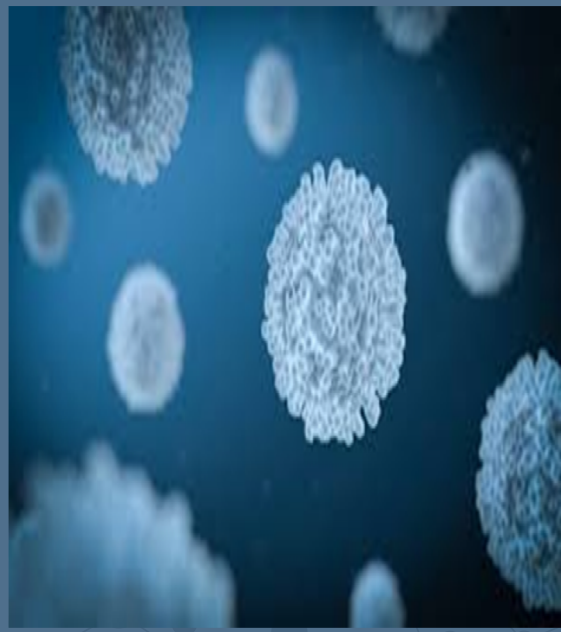
Phagocytic cell defects account for 10 to 15% of primary immunodeficiencies; the ability of phagocytic cells (eg, monocytes, macrophages) to kill pathogens is impaired .



secondary immunodeficiency disorder

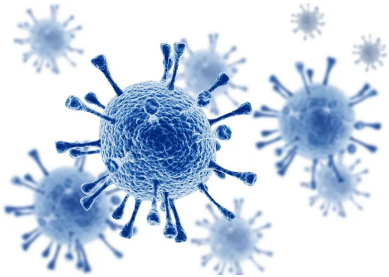
- These disorders generally develop later in life and often result from use of certain drugs or from another disorder, such as diabetes or human immunodeficiency virus (HIV) infection.

- They are more common than primary immunodeficiency disorders.

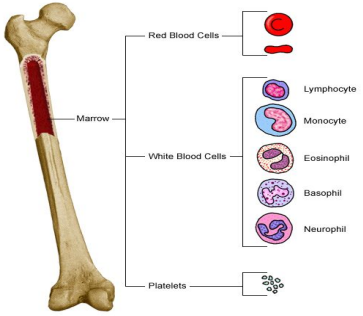


Secondary immunodeficiency disorders
These disorders can result from:

- **Diabetes**: white blood cells do not function well when the blood sugar level is high.
- **HIV**:infection results in acquired immunodeficiency syndrome, the most common severe acquired immunodeficiency disorder.



- **Cancer**: that affects the bone marrow (such as leukemia) can prevent the bone marrow from producing normal white blood cells.



❑ **immunosuppressant**

drugs used to suppress the immune system.

They may be given to people with an autoimmune disorder.

Corticosteroids

are used to suppress inflammation due to various disorders, such as rheumatoid arthritis.

However,they also suppress the body's ability to fight infections and perhaps to destroy cancer cells.

❑ **Chemotherapy and radiation**.

Summary

1. Immunodeficiency disorders disrupt your body's ability to defend itself against bacteria, viruses, and parasites.
2. There are two types of immunodeficiency disorders: those you are born with (primary), and those that are acquired (secondary).
3. Anything that weakens your immune system can lead to a secondary immunodeficiency disorder.

Thanks!

DO YOU HAVE ANY QUESTIONS?

References

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