

*Types of Surgical Diseases
(hereditary, Genetic, congenital and
acquired)*

*Surgery
Stage: 2*

Learning Objectives.

To explain:

- 1-The concepts of genetic and hereditary diseases.
- 2-Treatment options for genetic diseases.
- 3-Concepts of congenital and acquired diseases.

Genes

Materials present in the cell responsible for transmitting traits from parents to offspring (children).

Mutation

Is alteration in the genetic material of a cell of a living organism.

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Mutation

Causes

1-Error in DNA replication.

2-Exposure to environment factors like:

A-Smoking,

B-Radiation.

C-Environment toxins or pollutions,

D-Some viruses.

Genetic disease

Is a disease or disorder due to alteration in the patient genetic material in form of mutation.

Types

- 1-Single gene (monogenic) disease due to mutation in single gene.
- 2-Multiple genes (polygenic)(multi factorial) disease due to mutation in multiple genes.
- 3-Genetic disease may be transmitted from parents to their offspring and called hereditary.
- 4-Genetic diseases may be acquired later due to environmental factors.

Hereditary disease.

Is a disease or disorder caused by alteration in genetic material in form of mutations but are transmitted from parents to children.

So is a genetic disease that is transmitted from parents to offspring's or children.

Ex

Cancer when run in families is considered hereditary.

Difference between hereditary and genetic diseases:

Any hereditary disease is genetic disease but not all genetic diseases are hereditary only genetic diseases that are transmitted from parents to offsprings, or children are hereditary.

Genetic Disease

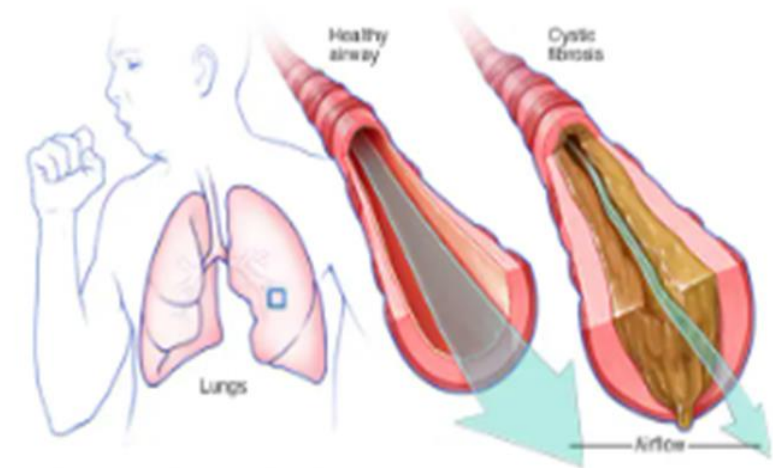
Achondroplasia

Bone growth disorder that causes short limbed dwarfism in which there is problem in converting cartilage to bone.



Cystic fibrosis(CF)

- Is build up of thick sticky mucous that causes respiratory and digestive problems with sever damage to these organs.
- This disease is inherited



Genetic disease

treatment

- 1-Symptomatic treatment to relieve symptoms and improve patient outcome.
- 2-Nutrition or dietary supplements.
- 3-Physical or occupational therapy.
- 4-Surgery to repair deformity or to treat complications.
- 5-Radiation or chemotherapy to treat cancer

Genetic diseases

treatment

6-organ transplant

A procedure to replace a nonfunctioning organ with a functioning one from healthy donor to:

A-prevent complication.

B-improve life expectancy.

Ex.

1-Liver, heart and kidney transplant.

2-Bone marrow transplant for genetic blood disorders.

Acquired disease

Medical condition that develop after the fetus is born (after birth) and can develop over the course of life.

Congenital disease

Medical condition that present at birth or before birth

Ex.:

Congenital heart diseases.

Acquired and congenital diseases

Congenital defect may precede acquired disorder like in:

Eisenmenger syndrome.

Is pulmonary hypertension (**acquired**) due to (**congenital**) heart disease.

The disease can cause permanent heart and lung damage.