OPEN ACCESS Freely available online

ISSN: 2161-1041
Hereditary Genetics: Current Research

Short Communication

Genetic Mutations in Humans: Affects, Genetic Variations and its Types

Garret Clarie*

Department of Genetics and Information, University of Athens, Athens, Greece

DESCRIPTION

A genetic mutation is a change in the sequence of people's DNA. DNA sequence provides people cells with the information they require to carry out their functions. If a portion of people DNA sequence is misplaced, incomplete, or damaged, people may develop symptoms of a genetic condition. When people cells divide and replicate, they undergo genetic mutations.

Cell division

Cell division can be classified into two types [1]:

Mitosis: The process by which your body generates new cells. During mitosis, your genes tell people's cells to divide into two by replicating your chromosomes [2].

Meiosis: The process of producing egg and sperm cells for future generations. During meiosis, chromosomes replicate with half the number of chromosomes as the original. That's how you get equal amounts of genetic material from each parent [3].

A genetic mutation alters the information required by your cells to form and function. Your genes are in charge of producing proteins that instruct your body on what physical characteristics you should have. People may experience symptoms of a genetic condition if we have a genetic mutation because cells are performing a different function.The symptoms of genetic conditions vary depending on which gene is mutated. Mutations cause a wide range of diseases and conditions. We may notice the following signs and symptoms [4]:

- Vision or hearing loss.
- Breathing problems.
- Increased risk of developing cancer.

Genetic disorders are not caused by all genetic mutations. Some genetic mutations have no bearing on your health or well-being. This is because a change in the DNA sequence has no effect on how your cell functions and also has enzymes, which are substances in our bodies that cause chemical reactions.

These enzymes aid your body's defence against disease. Enzymes can repair a wide range of genetic mutations before they have an impact on how a cell functions [5].

Some genetic mutations are even beneficial to humans. Changes in cell function can sometimes improve the proteins produced by cells and allow them to adapt to changes in your environment. A positive genetic mutation is one that can prevent a person from developing heart disease or diabetes, even if they have a history of smoking or being overweight.

A genetic mutation is a change in a gene's DNA sequence that results in a different outcome. It permanently alters the DNA sequence of that gene.

Human evolution, or the process of change over generations, requires genetic variations. A sporadic genetic mutation occurs in a single individual. That person's genetic mutation is passed down to their children (hereditary), and it continues for generations. If the mutation increases a person's chances of survival or freedom from disease, it is passed down through generations and spreads throughout the population. As the mutation passes down through generations, it becomes a normal part of the human genome, evolving from a gene variant to a normal gene [6].

CONCLUSION

Types of genetic mutation

Genetic mutations are classified according to where they occur. The following are examples of genetic mutations:

Germline mutation: A change in a gene that occurs in a parent's reproductive cells (egg or sperm) and affects their child's genetic makeup (hereditary).

Somatic mutation: A change in a gene that occurs in the developing embryo that may become a baby after conception. Except for sperm and eggs, these occur in all cells of the developing body.

Correspondence to: Garret Clarie, Department of Genetics and Information, University of Athens, Athens, Greece, E-mail: garret99@gmail.gr

Received: 01-Aug-2022, Manuscript No. HGCR-22-18471; **Editor assigned:** 05-Aug-2022, PreQC No. HGCR-22-18471 (PQ); **Reviewed:** 18-Aug-2022, QC No. HGCR-22-18471; **Revised:** 25-Aug-2022, Manuscript No. HGCR-22-18471 (R); **Published:** 01-Sep-2022, DOI: 10.35248/2161-1041.22.11.226

Citation: Clarie G (2022) Genetic Mutations in Humans: Affects, Genetic Variations and its Types. Hereditary Genet.11: 226.

REFERENCES

1. Cakmak HM,Kartal O,Kocaaga A, Bildiricid Y. Diagnosis and genetic analysis of polycythemia in children and a novel EPAS1 gene mutation.(2022). Pediatr Neonatol.
2. Zhou C, Luo J, Wang J. Clinical and genetic analysis of combined oxidative phosphorylation defificiency-10 caused by MTO1 mutation. Clin. Chim. Acta.(2022);526:74-80.
3. Feng G, Feng H, Wang T, Yuan H. Interaction analysis between germline genetic variants and somatic mutations in head and neck cancer. Oral Oncol.(2022);128.
4. Lin M, Lu Y,Yu Q,Chen Z. Common genetic driver mutation in NSCLC and their association with thromboembolic events: A retrospective study. Lung cancer. (2022);172:29-34.
5. Lei L, Zhiqiang L,Xiaobo L,Zhengmao H. Clinical and genetic features of Charcot-Marie-Tooth disease patients with IGHMBP2 mutations. Neuromuscul. Disord.(2022);32(7):564-571.
6. Igawa S, SatomiIgawa AY. Genetic skin diseases related to desmosomes and corneodesmosomes. J. Dermatol. Sci.(2014);74(2): 99-105.