

Chromosome

[Science](#), [Biology](#)



Chromosome 5 Condition Summary A Chromosome is a long and linear strand of DNA, which cells can copy on. DNA contains four chemical units that are A, G, C, T. A chromosome contains proteins in the nucleus. The protein carries a gene that is responsible for transmitting hereditary traits. Normally, human beings are born with 23 pairs of chromosomes.

Scientifically they are numbered from 1 to 23. The 23rd pair determines the sex. The XX chromosome is found in females while XY in males. Naturally, the pairing of chromosomes and genes is similar to every human being. However, some in some people the pairing of the chromosomes may occur differently from the norm. These differences in pairing and arrangement of the chromosomes will determine the differences in our physical looks and appearances. (Appels, 1998)

There are various conditions caused as a result of a defect or abnormalities in the chromosomal pairing. These are chromosomal abnormalities, single gene defects, multi-factorial problems and teratogenic problems. In this summary, I will discuss defects caused by chromosomal abnormalities, Chromosome 5 disorder. I chose this particular topic because it interests me to find out what happens during mitosis and meiosis of chromosomes. Moreover, the disorders caused by chromosomal disorders such as inversion and deletion. I have a personal connection with a friend who has got this condition. She inherited it from her late grandmother.

Chromosome 5, Trisomy 5p is a disorder that occurs when copies of the short arm (p) or a part of the short arm (p) appears thrice on chromosome number 5. Normally, the copies of the short arm (p) should be two. Chromosomes

have two arms designated as (p) and (q). The short arm is (p) while the long arm is (q). This condition is known as trisomy. When the male and female gamete is developing, a chromosome may break, it is known as chromosomal deletion. Hence, the embryo grows with the trisomy 5p condition. (Appels, 1998)

The salient features of a child who suffers chromosome 5 syndrome may be born with a small head, unusually round and a small chin. Their eyes are set widely, and the skin under their eyes has folds. Their nasal bridge is relatively small and may experience respiratory problems since their larynx develops that differ the norm. They are usually relatively smaller at birth compared to their counterparts. They may experience heart defects, hearing and sight problems. Their muscles are weak, and muscle tone is low. As they grow of age, they may experience difficulty in talking and walking. They may be very aggressive. Fortunately, their life expectancy is normal if there are no organ defects. Today, unfortunately, there is no medical cure for Chromosome 5 condition. However, the possible gene therapies are; speech and physical therapy can help people with the disorder lead normal lives. Moreover, corrective surgery can improve the quality of life. Moreover, parents whose child may be affected are advised to go for genetic counseling.

I have learnt that Chromosome 5 is responsible for several disorders in the body such as generation of immature blood cells from the bone marrow. Persons who suffer from this disorder suffer from anaemia due to low production of blood cells, megakaryocytes that are an abnormal production in cells that generate platelets. Moreover, individuals with chromosome 5

disorder are at risk of getting acute myeloid leukaemia (AML). Babies that has chromosome 5 disorder suffer from the cri-du-chat syndrome. The babies have a cry similar to that of a cat. These babies tend to develop slowly compared to their counterparts. Moreover; they tend to have a smaller head compared to a normal babies head. These individuals are also at risk of getting Crohn disease, inflammation of the bowel. Other disorders are eosinophilic leukemia and periventricular heterotopia. I have also learnt that most of these chromosomal disorders are hereditary.

References

Appels, R. (1998). Chromosome biology. Boston: Kluwer Academic Publishers.

OMIM Exploration.

OMIM has interesting and easy to read genetic topics. I have learnt the gene and chromosomal relationships. The morbid map shows the genomic context tap, location, gene locus, gene locus MIM number, phenotype, phenotype MIM number, Inheritance, pheno map key, comments and map symbol. Use of morbid maps can help one create his or her transcript models. One can trace a member of genes in a family or a group by use of annotation method. With the help of morbid maps analysis of genes is done and one can detect diseases in the genes. It can help in giving the domain shape or structure of a gene.

URLS.

1. <http://ghr.nlm.nih.gov/chromosome/5>
2. <https://rarediseases.org/rare-diseases/chromosome-5-trisomy-5p/>
3. [https://en.wikipedia.org/wiki/Deletion_\(genetics\)#Effects](https://en.wikipedia.org/wiki/Deletion_(genetics)#Effects)

<https://assignbuster.com/chromosome/>

4. [http://www. rightdiagnosis. com/g/genetic/intro. htm](http://www.rightdiagnosis.com/g/genetic/intro.htm)
5. [http://omim. org/entry/190685? search= down%20syndrome&highlight= down%20syndromic%20syndrome](http://omim.org/entry/190685?search=down%20syndrome&highlight=down%20syndromic%20syndrome)
6. [http://www. ncbi. nlm. nih. gov/omim/? term= CHROMOSOME+5](http://www.ncbi.nlm.nih.gov/omim/?term=CHROMOSOME+5)